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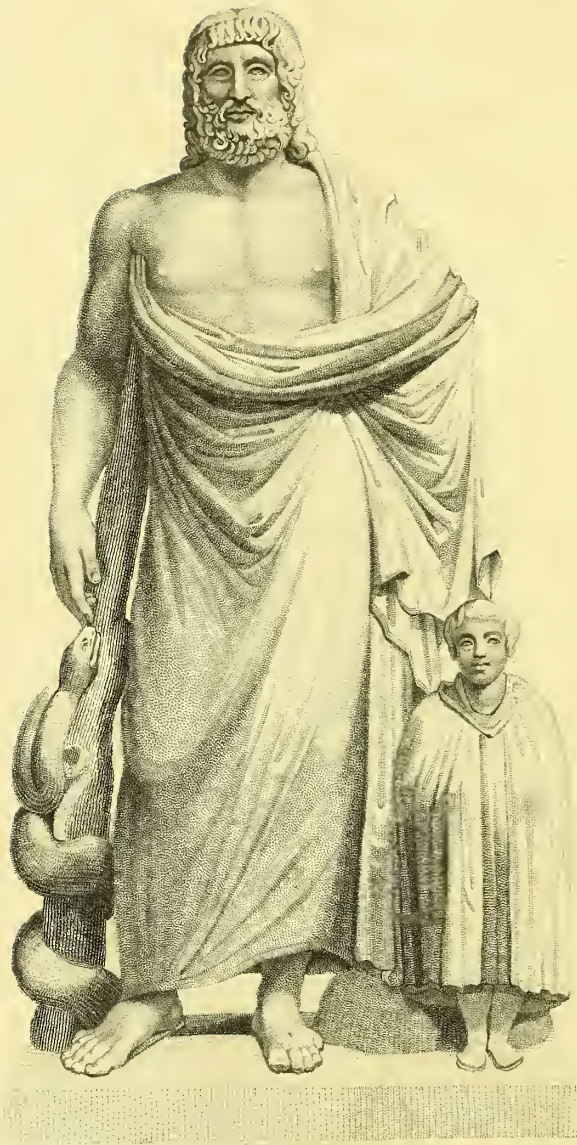
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MEDICAL PORTRAIT GALLERY.

BIOGRAPHICAL MEMOIRS

OF THE MOST CELEBRATED

PHYSICIANS, SURGEONS,

ETC. ETC.

WHO HAVE CONTRIBUTED TO

THE ADVANCEMENT OF MEDICAL SCIENCE.

BY

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“APOLLINEO NOMINA DIGNA CHORO.”

VOL. I.

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" I hold every man a debtor to his profession ; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves, by way of amends, to be a help and ornament thereunto. This is performed, in some degree, by the honest and liberal practice of a profession ; where men shall carry a respect not to descend into any course that is corrupt and unworthy thereof, and preserve themselves free from the abuses wherewith the same profession is noted to be infected : but much more is this performed, if a man be able to visit and strengthen the roots and foundation of the science itself ; thereby not only gracing it in reputation and dignity, but also amplifying it in profession and substance."—Bacon.

ABSTRACT
COLL. FING.
MED. EDIN.

PREFACE.

THE biography of Medical Men is admitted to be very generally defective. Of those from whose researches mankind has reaped so much benefit, it is not a little remarkable, that few particulars of their lives are known ; and that which has been said of men of letters, may perhaps apply with especial force to members of the Medical Profession, that *their lives are to be found in their writings*. Men extensively engaged in the duties of an arduous profession, have little leisure to mix with the world, or take part in the transactions of public life : they are, nevertheless, objects of great attention ; their pursuits enable them to obtain an insight into the springs of action, and to view man under all the sufferings of pain and disease, and thus afford opportunities of discerning the strength or the weakness of the human character. The biography of Men of Science may not in its perusal be calculated so to awaken the spirit, or to excite such powerful emotions, as a narrative of the exploits of warriors, or the subtleties of statesmen ; but it is more likely to afford delight and instruction, inasmuch as it offers to us objects of imitation and emulation ; and it should never be forgotten, that in extending the boundaries of science, we also contribute to the happiness of mankind.

The History of the Progress of Medicine, it is presumed, cannot be more agreeably displayed, than in a detail of the researches of the most celebrated professional men, who have successfully toiled in the pursuit of science. It is pleasing to contemplate the conduct and character of those whose labours have tended to the amelioration of the miseries and sufferings of their fellow-creatures ; and it will afford much gratification to find, enrolled among the members of the Medical Profession, some of the chief philanthropists of the age in which they lived. The variety of anecdote afforded by the mode adopted in this work of Illustrated Professional Biography, admits of the combination of the *utile dulci*, and obviates the fatigue which would accompany a more detailed or consecutive narrative, or chronological order of the History of the Science.

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In the proposed series, the History of the Profession is intended to be given; its progress displayed, and the various discoveries in Anatomical and Physiological Science, which have formed the basis of the improvements in the Practice of Medicine, recorded. To each individual it has been, and will continue to be, my endeavour faithfully to assign that which is due, and to award the just meed of praise. The science of Medicine is, even at this day, in a very imperfect state—it is the work of Art in the field of Nature; and patient observation and laborious research, for a very lengthened period, are absolutely necessary to bring it to any thing like perfection.

Many eminent physicians, it will be found, have by their writings advanced the *literature* as well as promoted the *science* of their countries, and have been the bosom friends of the wise and good. In this country, Pope, Johnson, Parr, and others, have borne testimony to their talents and virtues. Pope has said, “They are in general the most amiable companions, and the best friends, as well as the most learned men, I know.” Dr. Johnson remarks, “I believe every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of beneficence, and willingness to exert a lucrative art where there is no hope of lucre.” The Rev. Dr. Parr observes, “I have long been in the habit of reading on medical subjects, and the great advantage I have derived from this circumstance is, that I have found opportunities for conversation and friendship with a class of men whom, after a long and attentive survey of literary characters, I hold to be the most enlightened professional persons in the whole circle of human arts and sciences.” “In no order, (says Dr. Knox,) are there to be found individuals better informed, more polite, humane, and ingenious, than among the physicians.” Such have been the feelings and opinions of men renowned for their learning, and deservedly eminent for their knowledge of mankind; and such testimony ought to make a deep impression upon the minds of the members of the profession, and stimulate them to diligence in the pursuit of their studies.

To facilitate this object, as well as to conduce to the pleasure of the general reader, by laying before him the various incidents in professional life, and the satisfaction derived from a constant study of the welfare of mankind, has been my aim in the present work; the publication of which is intended to give a complete portraiture of the Progress of Medical Science; and as the subjects embraced by it will include notices of the LIVING as well as the dead, it may not, perhaps, be unreasonably supposed, that panegyric may, in some instances, be found to supply the place of truth, or that controversy and angry feeling may ensue from an exposition of faults and errors. Neither of these suspicions, it is presumed, has, or will be verified, as it will be my studious endeavour faithfully to portray all points connected

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with the professional character of the various subjects of the Memoirs, and none will be admitted into this "Portrait Gallery," who have not promoted the advancement of Medical Science. For the opinions given upon the writings of the respective authors, I feel myself to be responsible, and will willingly incur the risk of censure for the judgment I may pronounce, which will not be made without due consideration, and be the fruit of a long-continued course of severe study, united to the advantages derived from considerable practical experience.

Various opinions have already been expressed upon the subject of this work. Objections have been raised to the introduction of LIVING characters, and it seems to me, in the arguments that have been urged against this department, to have entirely escaped the attention of the critics, that I have not undertaken to write *personal* but *professional* biography. The greatest fear seems to be entertained that the Memoirs may be too panegyrical. My plan, it must be recollected, is only to embrace the notice of those who, by their researches, have contributed to the advancement of medical science, and of these, it would be very difficult to speak but in terms of a gratification naturally and unavoidably felt at the improvements they have introduced; but this, I trust, has been done with proper discrimination. I will confidently venture to say, that no undue praise has been lavished upon any individual whose memoir I have inserted in this publication. No one can entertain a stronger aversion to adulation than I do. I think it inconsistent with either good sense, propriety, or the freedom which in this country we all happily enjoy. "Assentatio, vitiorum adjutrix, procul amoveatur; quæ non modo amico, sed me libero quidem digna est."* And I agree with Felltham,† when he says that "there is no detraction worse than to over-praise a man; for if his worth prove short of what report doth speak him, his own actions are ever giving the lie to his honour."

One writer laments the want of a more independent plan. What, I would ask, can be more independent than that which embraces in distinct articles the labours of each professional man? The Memoirs are separate—they are distinctly paged—they may be arranged chronologically, or alphabetically, or according to the departments of the profession to which the members respectively belonged. I feel the greatest and most reasonable objection to my plan is, that it is not pursued according to the order of time; I wish that it had been otherwise; but, interesting and useful as the memoirs of the earlier physicians and surgeons may be to a few professional readers, I am sure they will see that it would be impossible to continue the work in such an order, for the expense attending the execution of the portraits of the ancient dead would not have found an equivalent in the extent of patronage afforded by the living. But, as a chronological or any other

* Cicero de Amicitia.

† Resolves by Owen Felltham.

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arrangement is not put aside, the memoirs can be placed in the order that may suit the inclination or disposition of the possessor: physicians may be separated from surgeons—foreigners from those of our own country—or the living from the dead. Whatever may be the plan adopted, it is likely that some objection will offer. I have endeavoured to adopt that which I have thought best calculated to effect my object, and for the execution of it I am ready to submit to the opinion of the profession and the public. I have freely given the results of my own reading and my own practice, and I trust that I have not in an unbecoming manner expressed my opinions in opposition to those of longer standing in the profession than myself, and those who may have greater claims upon the respect and gratitude of mankind.

The portraits have been selected from the most approved and authentic sources, and executed by the ablest artists. The greater number have never before appeared, and many have been expressly painted for the work by Mr. Henry Room, a very able, and most promising artist. As the countenance is the “index of the mind,” portraits of distinguished men have ever been looked upon with pleasure, and faithful resemblances have been eagerly sought after. By a survey of the features of the “human face divine,” we distinguish the man of science from the man of pleasure—the philosopher, the moralist, and the student, from the inane, the insipid, and the vulgar. “A real portrait,” says Lord Orford, “is truth itself, and calls up so many collateral ideas as to fill an intelligent mind more than any other species.” Eminent men represented with all the charms of the pencil, and with the true and real expression of their countenances, must ever animate the bosom with a love of their excellence.

In the memoir of LINACRE, I have omitted to acknowledge my obligation to the Royal College of Physicians for their permission, most kindly given, to copy their portrait of the founder of their college, and its first president. The picture in the college is taken from one which was formerly in Kensington Palace, and has been attributed to the pencil of Quintin Matsys. The accuracy of this I am disposed to question, and should rather refer to it as a production by the celebrated Holbein. The former artist is, however, stated by the Rev. James Dallaway, in his edition of Horace Walpole’s *Anecdotes of Painting in England*, to have drawn the picture of Dr. Linacre in the year 1521, which agrees with the date attached to this portrait, yet Linacre was abroad only in some period between 1480 and 1487, at which time he was but little more than twenty years of age. Holbein, it is known, was patronized by Henry VIII., and painted most, if not all, the celebrated people of his court.

The Rev. Mr. Dyce has kindly acquainted me with some particulars relative to AKENSIDE, which I notice in this place, to render the memoir

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of the poet and physician more complete. The "Hymn to Science" was written at Newcastle, not at Edinburgh, and is inserted in the *Gentleman's Magazine* for October, 1739; but the "Ode on the Winter Solstice" was composed at Edinburgh. The "Pleasures of Imagination" was published before his visit to Leyden, and was put forth anonymously in January, 1744, price 4s. in 4to., and in the May following at 2s. in 8vo. In a letter to Mr. Dyson, August 18, 1742, he calls himself "surgeon" in Newcastle-upon-Tyne. He commenced practice at Northampton in June, 1744. He had a house in Bloomsbury-Square, whence he removed to Craven-Street, and thence to Burlington-Street, where he died. He received a Doctor's degree at Cambridge in 1753, having been admitted a licentiate of the College of Physicians June 20, 1751, and a Fellow of that body April 8, 1754. His lectures on the lymphatic system were delivered May 28, 29, and 30, 1755. He was elected Physician to St. Thomas's Hospital, October 18, 1759. Upon the authority of Dr. F. Hawkins, the registrar of the College of Physicians, Dr. Akenside was thanked by the college in 1766, for his trouble in preparing Harvey's Works for the press, and for prefixing a preface which was printed in that edition, together with a Life of Harvey by Dr. Lawrence.

In the enumeration of the Works by the late DR. JOHN CLARKE, I had relied upon the authority of Watt, and inserted two works of which he could not have been the author, as they appeared in 1751. They are tracts relating to the employment of male practitioners in midwifery.

The portrait of CAIUS is from a mezzotint by Faber, taken from a picture in Gonville and Caius College. The autograph affixed is from a deed belonging to the college, and for the fac-simile of which I am indebted to the learned master of the college.

The portrait of DR. RADCLIFFE is from a painting by Sir Godfrey Kneller, purchased from the collection of Dr. Mead by Dr. William Hunter, and now preserved in the Hunterian Museum at Glasgow. The autograph affixed to this plate is taken from a book in which he inserted his name when he first entered at the University of Oxford.

The autograph of ALBINUS is taken from a letter in the possession of Mr. Stone, jun., at the Royal College of Surgeons.

T. J. PETTIGREW.

SAVILLE ROW.

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“ Homines ad Deos nullâ re propriis accedunt, quam salutem
hominibus dando.” CICERO.

THE HISTORY OF MEDICINE has been advantageously divided into four periods; the first of which embraces not less than 3000 years, extending from the time of the deluge to that of the Arabian physicians.

The medical art, including both Physic and Surgery, a distinction of later times, is generally admitted to have taken its rise among the Egyptians, but to have been brought to considerable perfection by the cultivation of the Greeks. All the facts connected with the earliest period of the history of medicine must be regarded with great doubt, being involved in the mystery of fabulous narration. The existence, however, of certain practices employed as remedial agents, have been handed down to us, and the records of them are to be considered as entitled to some degree of credit.

Medicine was divided into various kinds; and these divisions had their respective followers — DIETETICAL, PHARMACEUTICAL, and CHIRURGICAL. The professors were divided into sects: EMPIRICS, DOGMATISTS, METHODISTS. Many of the works of those whose names are preserved to us have perished by the hand of time.

In the FIRST period, omitting all that may be regarded as belonging to the fabulous age, are the celebrated names of Hippocrates, Plato, Aristotle, Callisthenes, Epicurus, Erasistratus, Herophilus, Themison, Thessalus, Leonidas, Plutarch, Celsus, Aretæus, Cœlius Aurelianus, Galen, Oribasius, Ætius, Alexander de Tralles, Paulus de Ægina, and Actuarius.

The SECOND period embraces the Arabian physicians, who must be looked upon chiefly as servile copyists of Galen and Aristotle. Many remedies were, however, added by these physicians, and some diseases, as, for example, the small-pox and the measles, have been, for the first time, well described; so accurate, indeed, have been the descriptions of these maladies, that little, if any thing, has been since added to their history. Among the Arabian physicians, the most renowned are Mesuë, Rhazes,

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Avicenna, Averröes, Haly-Abbas, Albucasis; and in this period, in Europe, Arnoldus de Villa Nova, Roger Bacon, and Basil Valentine, celebrated for his alchemical knowledge. This will be sufficient to show how much in its infancy medicine was, as a science, at this period. The foundation of the schools of Salerno and Montpellier seemed to diffuse knowledge; but the art of healing was truly given up to the empirics and to the monks. The second period did therefore but little for the advancement of medicine.

The THIRD period delivered medicine from the hands of the Arabs to those of the Europeans. Europe, however, was but slowly emerging from the ignorance which a state of barbarism had produced, and was, about the middle of the 15th century, recovering from the effects of the bloody wars in Italy, and the boundless luxury of the Roman empire. Efforts were now made to bring to light the productions of former times; princes gave encouragement to the learned to translate the MSS. of former ages; and these translations, disseminated by the invention of printing, promoted the civilization of Europe, and extended the knowledge of the medical art. Many eminent men belong to this period, as Celsus, Mercurialis, and Martianus, among the Italians; and Fernelius, Ballon, Duret, Houlier, and Jacot, among the French. Paracelsus must be mentioned as belonging to this era, although his speculations scarcely entitle him to be named as a benefactor to, or promoter of, medical science.

It is in the FOURTH period that we find the respected names of Harvey, Sydenham, Sanctorius, Gorter, Baglivi, Morton, Hoffman, Riverius, Etmuller, Stahl, Boerhaave, Mead, Freind, and others, who are familiar to us at this day, and whose observations are entitled to the most serious attention and regard.

The zeal now manifested in anatomical researches, the physiological views based upon them, and the consequent improvement of medical practice, the natural result of so correct and judicious a system, deserves the most fixed contemplation of the practitioner. The labours of Morgagni, Desault, Sabatier, Chaussier, Vicq d'Azyr, Sauvages, Cullen, Astruc, Stoll, Fothergill, the Hunters, Jenner, &c., have contributed much to the advancement of professional knowledge; and the skill of the chemist, by the researches of Lavoisier, Fourcroy, Davy, and others, have assisted in promoting the march of science. In later times, that is, during the present century, every branch of science has rapidly advanced; and the manner in which anatomical and physiological pursuits are now conducted, the zeal with which the several tissues of which the body is composed, are developed, and the general views entertained of the whole system of nature, promise greatly for the future perfection of the science of medicine. What

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can be more interesting to, or more worthy the observation of the philosopher, than to contemplate the progress of the human mind, as exhibited in the advancement of a science, the object of which is the relief of the sick, and the preservation of our fellow-creatures. Every man was, probably, at the commencement of the world, a physician; every one would study that which was calculated to assuage pain, or guard against disorder. In this sense, a French writer has marked the first, or earliest period, of medical science, as POPULAR; that it was EMPIRICAL there can be no doubt; it must necessarily have been founded on experience and imitation: it would descend from generation to generation, as we find it to have done in savage nations, from the accounts which have been handed down to us by various travellers. But their remedial agents extend little beyond those which are derived from the vegetable kingdom of nature, and are necessarily limited in their operation.

Among the Babylonians and the Egyptians, according to Herodotus and other authorities, the sick were exposed to the passers-by, who were expected not only to discover the ills of the afflicted, but to prescribe the remedies that might be necessary for their cure. These means for the relief of disease, we learn, were afterwards collected together, and inscribed either in the sacred books of the priests, or, as Iamblichus reports, upon columns, and preserved in the temples. Of the antiquity of medicine there cannot exist a doubt; but its earliest history is so enveloped in fable, that it is impossible to unravel it. Menes is the most ancient king of Egypt of whom we possess any records. His son Athotis is mentioned by Manetho as the author of several books on anatomy; which would of itself demonstrate some progress in the science, and a removal from that empirical character with which it must necessarily have commenced. Next to this illustrious professor of the medical art, must be mentioned Hermes Trismegistus, who has been confounded with the Thoth of the Egyptians—the Egyptian Mercury—who is reported to have been the inventor of all the arts and sciences. The priests of Egypt were the possessors of all the knowledge and learning of the Egyptians: this knowledge is said to have been contained in the Hermetic books, forty-two in number, (according to Clement of Alexandria), of which the last six related to medicine.

The Egyptians divided the human body into thirty-six parts, each of which they believed to be under the particular government of one of the decans, or aerial demons, who presided over the triple divisions of the twelve signs; and Origen says, that when any part of the body was diseased, a cure was effected by invoking the demon to whose province it belonged. A kind of theological anatomy has thus been made out by the

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late Mr. Champollion,* from the great funereal ritual, or book of the Manifestations. This is expressed, on various mummy-cases, in hieroglyphical characters; and may we not in this trace the first attempt to assign the different parts of the body to the several planets, which has been continued down to the present day in the renowned and popular astrological almanack of Francis Moore, physician?

The Egyptian Horus, son of Osiris and Isis, has been looked upon as the Grecian Apollo,† and usually regarded as the god of physic; and from Apollo, Æsculapius springs. Bacon says, “The variable composition of man’s body hath made it as an instrument easy to distemper; and therefore the poets did well to conjoin music and medicine in Apollo: because the office of medicine is but to tune this curious harp of man’s body, and to reduce it to harmony.”

The Egyptian must not be confounded with the Grecian Æsculapius. The history attaching to the former is exceedingly obscure. Mr. Salt first discovered Æsculapius as a deity in the island of Philæ, where there was a small sanctuary, having a Greek inscription dedicating the temple to him. Mr. Wilkinson informs us‡ that he was worshipped at Memphis, and on a certain mountain on the Libyan side of the Nile, near the City of Crocodiles, where he was reported to have been buried, if he were the first Æsculapius, the reputed inventor of medicine. But it must be recollected that the Egyptians admitted two deities of this name. Macrobius makes Æsculapius the beneficent force of the sun, which pervaded the souls and bodies of man; but Mr. Wilkinson thinks it more probable that he was the healing power of the Creator, which averted misfortunes and illness from mankind.

HERMES is looked upon, in the Egyptian mythology, as the god of letters. He is the same as Taut or Thoth, Mercury or the Moon. He has been confounded with Hermes Trismegistus;§ but *Trismegistus* does not in any way apply to letters, but simply means, “thrice great.” There is great difficulty in making out this Egyptian deity, from the variety of appellations he bears, in accordance with the different characters ascribed to him. It would occupy too much space, and at the same time, be inconsistent with the design of the sketches in this work, to enter upon an enumeration of them in this place; but that mentioned by Horapollon must be noticed,

* See Pettigrew’s History of Egyptian Mummies.

† Millin says, (Mem. Med. Soc. d’Emulation, t. 5. p. 344.) Apollo is first mentioned as the god of medicine, in the Orphic Hymns. (xxxiii. l. Argon. 173.)

‡ *Materia Hieroglyphica.*

§ *Tourtelte Hist. Phil. de la Médecine.*

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for this author describes Thoth, or Hermes, as holding a palm-branch, emblematic of a year and a month; and to this is attached the symbol of life and man in embryo, under the form of a frog.

The mythological veil under which all traces of the history of Egyptian medicine are to be found, serves only to demonstrate that the whole is to be regarded as allegorical, as far as relates to the personages mentioned. No human being was ever admitted into the order of the Egyptian gods, and no Egyptian god could ever have lived upon earth. The whole matter, then, reduces itself to fabulous history. Medicine, however, took its rise in the East, passed into Egypt, thence into Greece, and so was disseminated throughout the civilized world. The profession of medicine in Egypt was confined to the priests, and it descended hereditarily with them. If the account of the Hermetic books is to be relied on, there were treatises on different parts of the body, the structure and diseases of the eye, and the operations necessary for their cure. Every Egyptian was required to follow the profession of his father; and Herodotus tells us,* that the science of medicine was distributed into different parts; every physician was for one disease—not more: so that every place was full of physicians; for some were doctors for the eyes, others for the head; some for the teeth, others for the belly; and some for occult disorders. Their number must necessarily have been very great. Herodotus says, *παντα δε ιητρων εριπλεα*. The Æsculapius of Greece must date at least 1000 years posterior to the Egyptian. The celebrated mythologist, Jacob Bryant, makes him to be the same as Jupiter and Apollo—the same as Osiris, Hermes, Thoth, and Apis the physician. Many temples were dedicated to him in Asia Minor: he had several temples at Pergamus;† and Aristides reports that he was worshipped under the title of *Ζευς Ασκληπιος*, or Jupiter Æsculapius. At Memphis, the ancient Misr, the capital of Egypt, a live serpent, as the Æsculapian emblem, was kept, and treated with religious reverence. Serpent worship, however, was very general, not confined to one part of the globe, and it may be traced in almost every religion, through ancient Asia, Europe, Africa, and America.‡ The serpent has been employed as the symbol both of Good and Evil: the Egyptians used it as typical of the good demon (Agathodæmon). Thoth is not the only Egyptian deity symbolized by the serpent; Kneph, and Isis, and many others, were also distinguished by it. How the serpent applied to Hygæia, is to be considered as the symbol of

* Euterpe.

† Lucian.

‡ See the Rev. J. B. Deane's excellent work on the Worship of the Serpent, 8vo. 2d edit. Lond. 1832.

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health, is not easy of explanation. Pliny states the reason of its consecration to be from the use formerly made of the flesh of these animals in medicine. But the more probable conjecture is, I think, that which refers it to the renovation of life and vigour, typified by the periodical change of its skin. In the Grecian mythology, as in the Egyptian, the symbol of the serpent is sacred to nearly all the gods and goddesses, to Saturn, Jupiter, Apollo, Bacchus, Mars, Æsculapius, Rhea, Juno, Minerva, Diana, Ceres, and Proserpine.

The Egyptian origin of Æsculapius, and the connexion between the serpent and the god of medicine, are questions of little interest at the present day; but that the hereditary claims of the wise reptile should be still maintained among a people professing the Mohammedan religion, so hostile as it has always been to the least semblance of idolatry, is a remarkable and curious fact, and one which the traveller is surprised to find in the Valley of the Nile, though ever the cradle of superstition, and of so many fables of paganism. The juggling performances of the Háwees, or snake-players, may be traced to the feats of the Psylli; but the object of these, like similar contrivances in India, or the sleight-of-hand of European conjurers, is little more than to obtain money; and whatever notions may be connected with the disgusting ceremony of tearing live snakes with the teeth, during the *Wooled*, or birth-day festival of the Prophet, this is not directly attributable to any superstitious respect for the reptile, nor in any way referable to the emblem of the son of Apollo.

At the tomb of Shekh Hereédee, in Upper Egypt, the case is otherwise; and the cures believed to be performed there are attributed to the influence or direct agency of a sacred serpent. The name of the saint has extended from his tomb to the whole mountain on which it stands; and between E'Siout and E'Khmim, and nearly opposite Tahta, the projecting corner of the Mokuttum chain, is known by the appellation of Gebele 'Shekh Hereédee. Ascending near the centre of these precipitous cliffs, a celebrated Egyptian traveller informs me, you arrive at a tomb concealed from the view of those below by a projecting eminence, where the saint is said to be buried, and whither the sick are invited, by the well-known reputation of that holy personage and his miraculous powers, to repair, to obtain alleviation of their sufferings. To gain permission to consult him, or rather to invoke his aid, is readily granted by the guardian of the sepulchre, who is, at the same time, supposed to be entrusted with the power and privilege of interpreting his patron's wishes; and the pious devotee anxiously expects the manifestation, or the promises of the saint. An awful silence is preserved; he takes the shoes off his feet, and nothing is heard save the

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repetition of the *Fat-hah* (or evening prayer of the Koran), which the supplicant recites at the door of the tomb. At length, the guardian, having a knobbed staff fancifully decorated with tattered shreds of coloured cloth, approaches from the interior of the sepulchre, and unites with him in repeating the *Fat-hah*. The Shekh is supposed to be propitious—the snake, his emblem, under whose form he is believed to appear, glides from a dark recess—and thus, by his manifestation, having promised the wished-for boon, the credulous man humbles himself before it, and withdraws with the full persuasion of his own incipient cure, or of the recovery of the afflicted friend who had sent him to offer his adoration and presents to the all-potent saint.

The Grecian Æsculapius is generally esteemed as the son of Apollo and the nymph Coronis:—

Υἱον Ἀπολλωνος ὃν εἰναιτο δια Κορωνίς.

HOMER.

Pausanias says, no woman of mortal race was his mother: *θητην γυναῖκα εὐδειαν μητέρα*.* Coronis was worshipped at Sicyon, where, also, was a temple dedicated to Apollo, in which two live serpents were maintained. The serpent is to be regarded as the ordinary emblem of Æsculapius; but he is frequently depicted with a cock, as typical of vigilance; with an eagle, as denoting judgment and length of life. With the eagle, the head of a ram is also found, the former being placed on the right, and the latter on his left hand. The ram's head is conceived to have reference to the divinations of the deity. The serpent usually entwined around a club, to represent the exercise of prudence and discretion, as necessary to the sustaining of life. But to return to the Egyptians.

The Egyptians have been held forth for their knowledge of Anatomy, Botany, and Chemistry. With respect to the former, it has been inferred, rather than shewn, to have existed from the practice of embalming. The operations, however, embraced in this process, are scarcely entitled to the appellation of dissection; they consisted of little more than an evisceration of the contents of the head, chest, and belly, and a knowledge of the distinctive characters of most of the organs contained in these cavities, would be acquired without the aid of much anatomical research. The *Botanical* knowledge of the Egyptians is entitled to greater distinction. They were well acquainted with the use of various medicinal plants. Pliny, Dioscorides, and Theophrastus, mention several as worthy of notice, and demonstrative of the learning and civilization of the Egyptians.

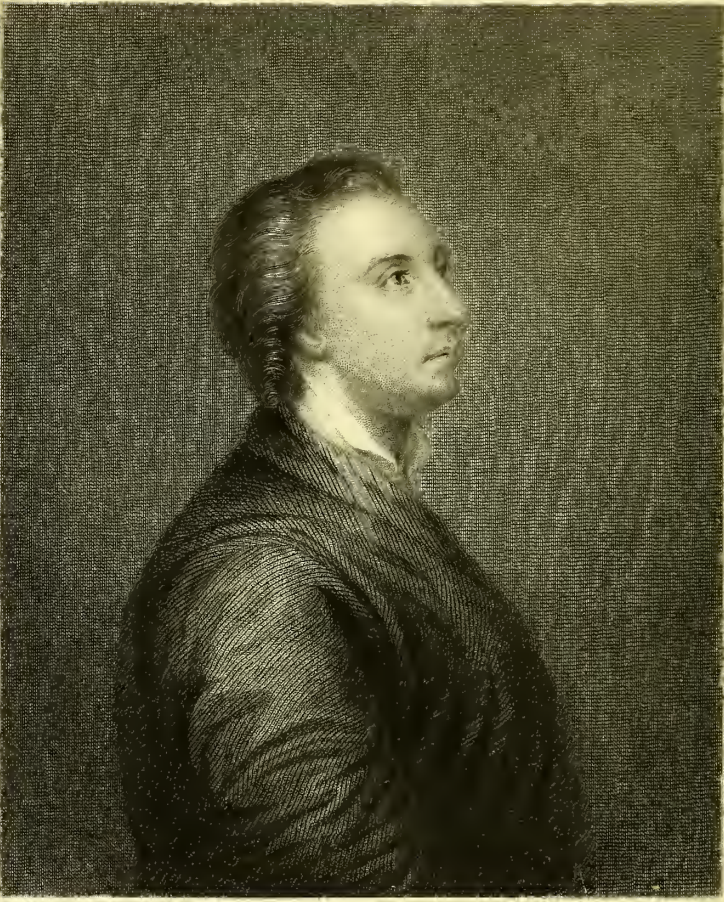
* L. vii. p. 583.

ÆSCULAPIUS.

Their knowledge of *Chemistry* is worthy of consideration. It is evidenced in the embalmments; and it has been endeavoured to be shewn that the word, Chemistry, is derived from a hieroglyphical name by which Egypt has been distinguished: *Khemi*, the tail of the crocodile. *Chame* literally means “the black colour.”

Bleeding in the veins, and also in some of the arteries, the application of the actual cautery, the administration of enemata, the operation of paracentesis of the abdomen for a dropsy—these are given upon the authority of Prosper Alpinus, a writer of good credit, but probably refer to the more modern practices of the Egyptians.

The engraving which accompanies this sketch is taken from the celebrated statue in the Louvre, where the god Æsculapius is seen attended by Telesphorus, the god of recovery.



Mark Akenside.

A. P.

MARK AKENSIDE, M.D. F.R.S.

“Quæ tibi, quæ tali reddam pro carmine dona?”—VIRG.

MARK AKENSIDE was a native of Newcastle-upon-Tyne, and born on the 9th of November, 1721. He was the son of a butcher; the recollection of which he was always anxious to suppress. To such an extent did he carry this ridiculous feeling, that, as it is reported, he could never regard a lameness, which impeded his walking with facility, otherwise than as an unpleasant memento of a cut of the foot which he received from the fall of one of his father's cleavers when about seven years of age. His parents were Presbyterians, and strict in the observance of their religious duties. Akenside was destined for the ministry, and placed under the care of Mr. Wilson, a dissenting minister at Newcastle. In a MS. dedication* of his poem, “The Pleasures of Imagination,” to his friend, Mr. Jeremiah Dyson, he writes his name *Akinside*; so, also, in his “Ode to the Earl

* Viro conjunctissimo
JEREMIÆ DYSON,
Vitæ, Morumque suorum Duci,
Rerum bonarum Socio,
Studiorum judici,
Cujus Amicitia
Neque sanctius habet quicquam,
Neque optat carius;
Hocce Opusculum
(Vos, ô Tyrannorum impura laudes
Et servilium blandimenta Poetarum,
Abeste procui)
Dat, Dicat, Consecratque
MARCUS AKINSIDE,
xvii Calendas Jan. A. Æ. C. MDCCXLIV.

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of Huntingdon;” in his Thesis, and in some of the earlier editions of his works. After the sixth, published in 1763, by Dodsley, (who purchased the MS. of the poem for the sum of £120, a very large price in those days, and only given, on this occasion, upon the opinion and advice of Pope, who told the bookseller that the author was “no every-day writer;”) he is printed Akenside. His genius for poetry manifested itself at an early age. When only sixteen years old, he sent to the Editor of the Gentleman’s Magazine a poem, written after the manner of Spenser, entitled, “The Virtuoso,” in which there is exhibited much of the future talent and power of the author. “A Rhapsody on the Miseries of a Poet born to a low Estate,” and a Fable illustrative of Content and Ambition, followed—and preceded that which may, perhaps, be pronounced one of the finest didactic poems in the English language, and upon which the poetical character of the author may safely rest.

Akenside entered himself a pupil in medicine at Edinburgh, in his nineteenth year, and then most honourably returned a sum of money he had received from the Dissenter’s Society, which it was customary for them to allow to young men destined for the ministry. He resided in Edinburgh for two years, and was very zealous in the pursuit of medical knowledge. He became a member of the Medical Society, and particularly distinguished himself by his oratorical powers. Dr. Robertson told Dr. Stewart, the author of the *Elements of the Principles of the Human Mind*,* that he was frequently led to attend their meetings chiefly to hear the speeches of Akenside. The “Hymn to Science,” was written at Edinburgh; also the “Ode on the Winter Solstice.” The former has passages of extraordinary merit and beauty:—

“That last best effort of thy skill,
To form the life and rule the will,
Propitious Power! impart.
Teach me to cool my passion’s fires,
Make me the judge of my desires,
The master of my heart.

“Raise me above the vulgar’s breath,
Pursuit of fortune, fear of death,
And all in life that’s mean;
Still true to reason be my plan,
Still let my actions speak the man,
Through every various scene.”

Stanzas 12 and 13.

* III. 501.

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From Edinburgh he removed to Leyden, then the great seat of medical science. Here, it is probable, he began to methodize his great poem. Here, also, he wrote many minor pieces: "Hymn to Cheerfulness, &c.;" and having studied for three years, he took his degree of Doctor of Physic, May 16, 1744, and on this occasion wrote a Thesis on the "Origin and Growth of the Human Fœtus" (*De Ortu et Incremento Fœtus Humani*), which was inscribed to Dr. Richard Mead.*

"The Pleasures of Imagination" was published in 1744, and immediately procured for its author, who had not yet reached his twenty-third year, a niche in the Temple of Fame. Akenside and Armstrong, both "twofold disciples of Apollo," published their chief works in the same year; and it has been well observed,† that, "they appealed to the consent of mankind in opposite directions;" for, "The Pleasures of Imagination" is rich in materials, and brilliant in imagery and versification; whilst the "Art of Preserving Health" is remarkable for its simplicity of style, and a total rejection of ornament. As poets, they eminently excelled—as physicians, they to no great extent succeeded; not from lack of medical knowledge, or zealous attention in its pursuit—but literary exertions have, most unaccountably, always been looked upon as incompatible with the duties of an arduous profession.

"The Pleasures of Imagination" has been translated into other languages:—into French, by the Baron d'Holbach; and into Italian, by the Abbati Angelo Mazza. Neither of these translations do justice to the original. The extraordinary condensation of the subject matter of the poem, will satisfactorily account for these failures.

Akenside started as a physician at Northampton, where he resided for about a year and a half only, the chief practice being engrossed by Dr. Stonehouse. During this time he probably composed many of his Odes. He came to London under the protection of his generous friend, Mr. Dyson, afterwards Clerk of the House of Commons; resided at North End, Hampstead; and frequented the clubs and assemblies of the metropolis. About 1747, he took up his abode in Bloomsbury Square, where he continued for the remainder of his life. He was admitted, by mandamus, to a Doctor's degree at Cambridge; he was chosen a Fellow of the Royal Society; and elected a Fellow of the Royal College of Physicians. Mr. Dyson assigned to him an annual income of £300, to enable him to make his way as a phy-

* According to Chalmers, he also took a degree at Edinburgh; but I am disposed to think this a mistake.

† Bucke's *Life of Akenside*, p. 30.

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sician. This liberal man and constant friend is alluded to by the poet in the beautiful Invocation to his poem:—

——— “ O, my faithful friend !
O early chosen, ever found the same,
And trusted and beloved ! Once more, the verse
Long destined, always obvious to thine ear,
Attend indulgent : so in latest years,
When time thy head with honours shall have clothed,
Sacred to even virtue, may thy mind,
Amid the calm review of seasons past,
Fair offices of friendship, or kind peace,
Or public zeal :—may then thy mind, well pleased,
Recall those happy studies of our prime.”

Akenside became a candidate for the situation of physician to the Charter House, but was unsuccessful. In July, 1755, he was appointed to deliver the Gulstonian Lectures before the Royal College of Physicians. These have not been printed. The subject selected was the Function of the Lymphatic or Absorbent System. The real constitution of this system was unknown until a comparatively late period. Galen, and the ancients, looked upon the lymphatics as forming a part of the sanguiferous, or rather venous, system: hence the opinions relative to venous absorption; in support of which the illustrious names of Ruysch, Boerhaave, Meckel, Swammerdam, and Haller, may be cited. Dr. William Hunter and Dr. Monro (secundus) have denied, altogether, the doctrine of venous absorption, and contended for the sole power of the lymphatics in the performance of that important function. The controversy between Hunter and Monro, for the priority in the promulgation of this opinion, is well known; but it will appear that Akenside is entitled to this distinction, since his opinions were delivered before the Royal College of Physicians in 1755, whereas those of Hunter and Monro did not appear until 1757. It is reasonable to presume that Akenside had the Extracts from his Gulstonian Lectures read at the Royal Society, and inserted in the Philosophical Transactions,* in consequence of this dispute; and adopted this method of laying his claim to the doctrine, though he carefully abstained from any notice of the pretensions of others. In these “Extracts” he states his objections to the doctrine of Boerhaave and the mechanical philosophers, and advocates the independency of the lymphatic system.†

* Vol. L. p. 322. Read Nov. 10, 1757.

† The insertion of these Extracts occasioned Dr. Monro to attach a postscript to his “Observations, Anatomical and Physiological.” Upon which Akenside, according

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In January, 1759, Akenside was chosen Assistant Physician to St. Thomas's Hospital; and in two months afterwards one of the physicians: He was also, in the same year, appointed Assistant Physician to Christ's Hospital; by which it would appear that his character as a physician, in London, must have been by this time established. In 1761, through the interest of Mr. Dyson, he was appointed one of the physicians to the Queen. Akenside was associated with two most distinguished physicians at St. Thomas's Hospital—Drs. Russell and Grieve. It is very much to be lamented that we have so few personal accounts of Akenside. Mr. Dyson, who could have said more upon the subject than any one else, is remarkably silent on this head. He has not, indeed, "revealed a solitary feature in the character of the poet." The late Dr. Lettsom was a pupil at St. Thomas's Hospital in the year 1766; and, in a MS. in the possession of the writer of this sketch, he has drawn the characters and depicted the conduct of his teachers. The picture is unfavourable to Akenside, who is stated to have been most supercilious and unfeeling. "If the poor affrighted patients did not return a direct answer to his queries, he would often instantly discharge them from the hospital. He evinced a particular disgust to females, and generally treated them with harshness.* It was stated, that this moroseness was occa-

to Chalmers, printed some remarks in 1756. I have not been able to meet with these in any library, public or private. At all events, they could not have been printed before 1758.

* Many passages from the writings of Akenside might be quoted in contradiction to this statement; which, however, as far as regards the testimony of Lettsom, is unquestionable. In the ode, "At Study," we read—

" Love is native to the heart,
Guide its wishes as you will,
Without love you'll find it still
Void in one essential part."

Again :—

" Though the day have smoothly gone,
Or to letter'd leisure known,
Or in social duty spent,
Yet, at eve, my lonely breast,
Seeks in vain for perfect rest,
Languishes for true content."

In another place he depicts woman—

—— " powerful with beaming smiles,
Chief of terrestrial nature !"

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sioned by disappointment in love; but hapless must have been that female who should have been placed under his tyranny." Lettsom was inexpressibly shocked at an instance of Dr. Akenside's inhumanity, exercised towards a patient in Abraham's ward, who had been ordered bark in boluses; who, in consequence of not being able to swallow them, so irritated Akenside, as to order the sister of the ward to discharge him from the hospital; adding, "He shall not die under my care." As the sister was removing him, in obedience to the Doctor, the patient expired.

"One leg of Akenside was considerably shorter than the other; which was in some measure remedied by the aid of a false heel. He had a pale, strumous countenance, but was always very neat and elegant in his dress. He wore a large white wig, and carried a long sword." Lettsom never knew him to spit; nor would he suffer any pupil to spit in his presence. One of them once accidentally did so, yet standing at some distance behind him; the Doctor instantly spun round on his artificial heel, and hastily demanded who was the person that spit in his face. Sometimes he would order some of the patients, on his visiting days, to precede him with brooms, to clear the way, and prevent the patients from too nearly approaching him. On one of these occasions, Richard Chester, one of the Governors, upbraided him for his cruel behaviour: "Know," said he, "thou art a servant of this charity." On one occasion his anger was excited to a very high pitch, by the answer which Mr. Baker, the surgeon, gave to a question the Doctor put to him respecting one of his sons, who was subject to epilepsy, which had somewhat impaired his understanding. 'To what study do you propose to place him?' said Akenside to Baker. 'I find,' replied Baker, "he is not capable of making a surgeon, so I have sent him to Edinburgh to make a physician of him." Akenside turned round from Baker with impetuosity, and would not speak to him for a considerable time afterwards.

"Dr. Russell was as condescending as Akenside was petulant. Akenside, however, would sometimes condescend to explain a case of disease to the pupils, which always appeared sagacious; and, notwithstanding his irritable temper, he was more followed than Russell by the pupils.

"Dr. Grieve lived in the Charter House, to which he was physician. He was an amiable man, and an unassuming scholar. He was the translator of Celsus."

Mr. Meyrick's testimony is much in accordance with that of Dr. Lettsom. Mr. M. was a surgeon and apothecary; and frequently called in Akenside, with whom he was in habits of intimacy. "We were not very much like, either (says Mr. M.); for he was stiff and set; and I, all life and spirits. He

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often frowned upon me in a sick-room. He could not bear to see any one smile in the presence of an invalid; and I think he lost a good deal of business by the solemn sententiousness of his air and manner. I wanted to cheer patients up !”*

One year after his appointment to St. Thomas’s Hospital he was chosen to deliver the Harvæian Oration at the Royal College of Physicians; and it was published, by Dodsley, in 1760, with a dedication to the President, Dr. Reeve. From this time to the period of his death he published various papers in the *Philosophical Transactions*, the *Transactions of the Royal College of Physicians*, and separate tracts. He communicated, in 1763, to the Royal Society, the account of a very curious case of an “Affection of the Heart,” which appeared to be the result of a blow received six months previous to death, and which drove the edge of a plate forcibly between the ribs. The appearances, upon dissection, warranted the opinion of Dr. A. as to the cause of death; but there is mention made of the patient having been crippled with rheumatism a year previously to the accident, which the researches of modern practitioners would tend to shew had some connexion with the case. He also printed “Observations on Cancers,” and “On the Use of Ipecacuanha in Asthmas;” also, a “Method of treating White Swellings of the Joints;” all of which are among the papers contained in the first volume of the *Transactions of the Royal College of Physicians*.† The style of those papers is lucid, and entirely devoid of affectation; plain, concise, and unassuming. His doctrine, in the paper on Cancers, will not be admitted in the present day; and the remedy recommended by him (the hemlock, as lauded by Dr. Storck of Vienna,) in this disorder, has been too frequently employed without any benefieial effect. The value of Ipecacuanha, in some cases of asthma, is now generally admitted. The remarks on the use of blisters in white swellings of the joints, are judicious. His principal medical work is entitled, “*De Dysenteria Commentarius*,” and was published in 1764. It was well received; and translated by Dr. Ryan in 1766, and by Mr. Motteux in 1768, though neither of these versions do justice to the original. The Latinity of the Harvæian Oration and the work on Dysentery is much esteemed for its purity and elegance. The medical character of Akenside may be estimated by

* Bucke’s *Life of Akenside*, p. 29.

† Akenside read some observations on the “Putrid Erysipelas” before the College, which were intended to have been printed in the second volume of the *Transactions*. He had them home, for the purpose of correction, at the time of his decease, and they were never returned to the College.

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this latter publication. It is a clear and succinet account of the disease, much more satisfactory than any that had preceded it; and the mode of treatment, by the exhibition of Ipecacuanha, has been adopted to the present time. Few diseases have attracted more the attention of medical practitioners; but it is only of late years that the necessary distinctions have been made of its several types, and the varied measures necessary for their cure. The opinion now entertained of the disease, is that of its being an inflammatory action seated in the mucous membrane of the intestines, chiefly of the larger ones, and producing more or less constitutional disturbance, according to the extent of the disease. Akenside does not look upon dysentery as an inflammatory disorder; and he assumes this point from the circumstance that often there is very little fever attending the disease; which, he observes, is not the case in an inflammation of the bowels. No distinction, in his time, was made between inflammation affecting the serous or the mucous surfaces of the intestines; nor were the symptoms indicative of either, then discriminated. Modern practitioners have marked these, and the disease is consequently much better understood than formerly. It is unnecessary to dwell longer on this topic than to say, that the remedy most approved by Akenside is that which, indeed, seems best calculated to afford relief to most of its stages and conditions, and to be extensively used at the present time.

Akenside was appointed to deliver the Croonian Lectures at the Royal College of Physicians; and he singularly made choice of a subject, though connected with medicine, yet in a very partial degree; and, after having delivered three lectures on the "History of the Revival of Learning," he discontinued the course; the subject being considered by the Fellows as foreign to the intention of the founder of the lectures and the purposes of the institution. These appear to have been his concluding medical labours (if such they may be called); for shortly after, namely, on the 23d of June, 1770, his death took place, occasioned by a putrid sore throat. He was buried in St. James's Church; and he left all his effects, books, &c., to his constant friend Mr. Dyson.

Thus died Akenside, in the 49th year of his age—in the full possession of his intellectual powers—surrounded by numerous friends, of great excellence and high character—in the enjoyment of a select, not an extensive, practice—and celebrated as a poet, a philosopher, and an elegant scholar. His critical powers were highly estimated by his contemporaries and by the public; yet he does not appear to have enjoyed any particular intimacy with the poets of his day, among whom are to be found Armstrong, Thomson, Young, Glover, Somerville, Collins, Lyttelton, Gray, Mason,

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Butler, and others. His manners seem to have been solemn and reserved, and his temper irritable; but there is scarcely reason to question the benevolence of his heart. George Hardinge says, "He had, in general society, a pomp and stiffness of *manner*, not of *expression*—in which last he was no less chaste than flowing and correct. But the misfortune of this *manner* was in some degree connected with his figure and appearance. He looked as if he never could be *undressed*; and the hitch in his gait, compared with a solemn cast in his features, was, at the best, of a kind that was not companionable, and rather kept strangers at a distance from him. Though his features were good, manly, and expressive, a pale complexion of rather a sickly hue, and the laboured primness of a powdered wig in stiff curl, made his appearance altogether unpromising, if not grotesque. But, where he was intimate, was admired, and was pleased with his party, he conversed most eloquently and gracefully."* He was not a wit, and had no patience for jests. He is said to have been of the absurd opinion of Lord Waldegrave, that "a true gentleman never jests." He had great satirical powers, as his Epistle to Curio manifests. This is a severe invective on Mr. Pulteney, afterwards Earl of Bath. In this Epistle, Akenside severely reproaches him for his treachery; and represents, in lively colours, the charms of freedom and virtue, and the infamy attendant upon principles founded on despotism and slavery.

In early life Akenside was distinguished by his oratorical powers, his historical knowledge, and his philosophical taste. His memory was very powerful. It is said† that, in the society of those mild and gentle spirits who admired his genius and respected his virtues, he was kindness itself. His language flowed chastely, gracefully, and eloquently; and his varied knowledge, argumentative reasonings, and nice distinctions, his fine appreciation of philosophical allusions, and keen relish for the beauties of the creation, would display themselves in pure and copious streams of eloquence, never, perhaps, surpassed by the greatest masters of social life the world ever knew. His life is marked by a course of undeviating rectitude. His love of liberty, his hatred of tyranny, bigotry, and hypocrisy, constant; his admiration of virtue and integrity, exalted and uniform. His politics may be gathered from his "Ode to the Earl of Huntingdon," one of his finest compositions. As an English lyric poem, it stands pre-eminently great. Akenside must be regarded as a Whig. He espoused the principles of the Revolution. He was not a republican. He equally detested tyranny and bigotry. His great poem demonstrates this in every page. He was a

* Nichols's Literary Anecdotes, vol. viii.

† Bucke, p. 221.

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great admirer of the writings of Plato, Cicero, and other ancient philosophers; and his religious opinions were probably influenced by the estimation in which he held these great authors of antiquity. He is to be looked upon as a Theist. Religion was a subject upon which he seldom conversed. From various passages in his writings, it is manifest he had great reverence for the Christian doctrine. The wisdom and benevolence of the Deity are constant themes for the veneration of the poet throughout the "Pleasures of Imagination." Mr. Bucke has given an extract* from a letter of Akenside's, supposed to have been addressed to Dr. Grainger, so highly commended by Dr. Percy, Bishop of Dromore, and which, after noticing the various opinions that have been entertained by philosophers respecting the nature of the human soul, concludes thus:—"It is a great satisfaction, however, that we live in a world presenting, every moment, something to exercise our faculties; and that the Grand Mover of the whole will, no doubt, make ample allowances for human infirmity." The fame of Akenside, it must be obvious, rests more upon his poetical than his medical character. The excellence of his "Pleasures of Imagination" is universally admitted; though differences of opinion, as to its particular merits, have been entertained. Cooper† regards it as "the most beautiful didactic poem that ever adorned the English language." The writers of the *Biographia Britannica* look upon it as "a noble and beautiful poem; exhibiting many bright displays of genius and fancy, and holding out sublime views of nature, providence, and morality." Dr. Johnson says, "I could not read it through." His opinion of the Odes was not more favourable:—"One bad ode may be suffered; but a number of them makes one sick." But Akenside, be it remembered, was a Whig; and Johnson carried his strong prejudices, theological and political, into nearly all his criticisms.

It was the intention of Akenside to correct, or rather re-write, his "Pleasures of Imagination." He printed the first and second books, and transcribed a portion of the third; and he also wrote an introduction to an intended fourth book. Those have been published by Mr. Dyson; who considered them too valuable, even in their imperfect state, to be withheld from the public. Mr. Pinkerton became the possessor of Akenside's copy of his original poem with his marginal alterations, many of which are great improvements. Mr. P. put these in a collection of "Letters of Literature, by Robert Heron, Esq." 8vo. Lond. 1785.

The Portrait accompanying this Memoir was painted by Pond when the poet was in the thirty-fifth year of his age. The Autograph is from the statute-book of the Royal Society.

* Life, p. 181.

† Letters on Taste.

BERNARD SIEGFRIED ALBINUS, M.D.

“Omni miraculo quod sit par hominem majus miraculum est homo.”

St. August. de Civit. l. 10, c. 3.

BERNARD SIEGFRIED ALBINUS was the son of an eminent physician, Bernard Albinus, and a professor at the university of Leyden. He was born at Frankfort, Feb. 24, 1697. He was instructed in latin by Sommers and Nesterhoff; in philosophy, by Person and Gronovius; and professionally educated by his father, by Rau, Bidloo, Decker, and Boerhaave. In 1718 he visited Paris, and made the acquaintance of Winslow and Senac. At the expiration of six months he was recalled to Leyden, in consequence of the death of Rau, and was appointed his successor as teacher in anatomy and surgery; and he received a degree of Doctor of Medicine without examination. Upon the death of his father, in 1721, he was chosen to succeed him as professor of anatomy; and upon his admission to the chair, he read a paper, entitled, “*De Vera Via ad Fabricæ Humani Corporis Cognitionem ducente*,” in which he forcibly demonstrated the importance of Comparative Anatomy; and by the excellence of this installation address, he obtained much reputation.

His first publication, in which he pays a just and elegant tribute to the memory of his teacher and predecessor, Rau, was made in 1725, under the title of “*Index Supellectilis Anatomix Ravianæ*.” The following year he put forth his well-known work on the Bones, which was reprinted in 1762, accompanied by plates of extraordinary fidelity and elegance. His “*Historia Musculorum Hominis*” appeared in 1734. The descriptions are most faithful, and the plates wonderfully accurate. Haller declared this work to be “the best ever executed in anatomy.” To these publications succeeded his “*Disertatio de Arteriis et Venis Intestinorum Hominis*,” in 1736, accompanied by a coloured plate, shewing the anastomosis of the arteries; and his tract “*De Sede et Causa Coloris Æthiopum*,” appeared in 1737. Also his “*Icones Ossium Fætus Humani*” with a brief history of the growth of bone.

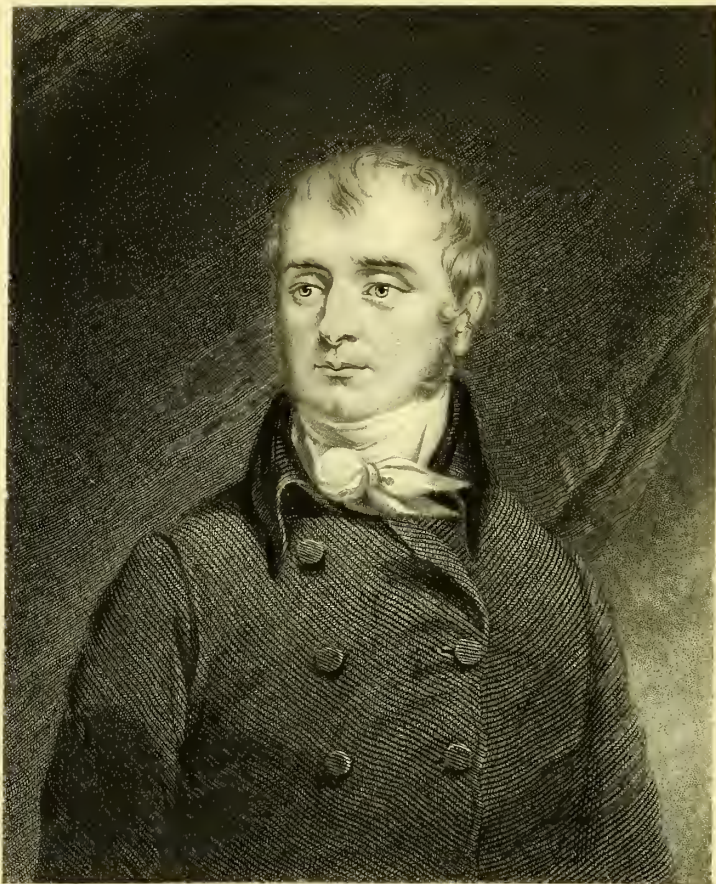
BERNARD SIEGFRIED ALBINUS.

In 1741 he published "Explicatio Tabularum Anatomicarum," and in 1744 the plates of Bart. Eustachius, with explanations. He published "Tabulæ Sceleti et Musculorum Corporis Humani," in 1749, in large folio, at London. He published also "Annotationes Academicæ" in 1760, in four vols. 4to. which are illustrated by beautiful plates; and he likewise edited the works of Harvey, Vesalius, and Fabricius de Aquapendente. These various publications are held in high esteem to the present day, and the fidelity of the delineations and descriptions is universally allowed.

Albinus is to be regarded as the first anatomist of his age, and he held the chair of anatomy at the university of Leyden during nearly fifty years. He died Sept. 9, 1770, at the age of 73 years. His zealous application to anatomical researches is perhaps to be attributed to his being a strong advocate of the mechanical theory of Boerhaave. In accordance with this doctrine, he necessarily devoted himself to the study of minute anatomy. He is one of the first to have followed up the views of his celebrated teacher, and to have noted with great precision the intimate structure and disposition of the several parts of the human body. No other individual can be said to have paid equal attention to the arts of design, to illustrate his works. He took uncommon pains to ornament and render attractive his various anatomical productions, but he is never found to have sacrificed the truth of nature to the beauty of delineation.

The autograph of B. S. Albinus is of very great rarity. I am assured by the director of the Anatomical Collection at Leyden, of which Albinus was himself, for many years, the conservator, that among all the documents belonging to that department, it is not to be found. I have, however, been fortunate enough to meet with a Letter of this celebrated Anatomist, addressed to Dr. Robert Nesbitt, the author of a well-known work on Osteogeny. The letter announces the transmission of copies of the second volume of Albinus's edition of the Works of Vesalius to Dr. Nesbitt, Mr. (Dr.) Mead, Mr. Douglas, Mr. Cheselden, and Mr. Barrett. The signature affixed to the portrait of Albinus is taken from this letter. The fac-simile of his writing given beneath the autograph is taken from a MS. entitled *Prima Delineationes Tabularum Sceleti et Musculorum Corporis Humani*, in the library of the Leyden University, and may be depended upon as the genuine handwriting of this celebrated professor.





Har. Richard

MARIE FRANÇOIS XAVIER BICHAT, M.D.

“ Oh early ripe ! to thy abundant store,
What could advancing age have added more ? ”

DRYDEN.

XAVIER BICHAT was born on the 11th of November, 1771, at Thoirette, in the department of the Ain. His father, Jean Baptiste, was a Doctor of Medicine of the University of Montpellier; and to his instruction, Xavier Bichat's early knowledge of medicine is to be attributed. He is said to have distinguished himself among his fellow-collegians, in the common course of study; and he is noticed as having been especially versed in the Latin language, and to have excelled in the mathematics. Natural history was also with him a favourite pursuit. He received his anatomical instruction at Lyons, and was remarkable for his general views of the science, for new methods of treating which, he was afterwards so peculiarly characterised. At this time the study of surgery had acquired a preponderating influence, owing to the deserved celebrity of Desault. To this science, Bichat first applied himself, and studied under the chief surgeon of the Hôtel Dieu of Lyons, Marc Antoine Petit. The revolution obliged Bichat to quit Lyons for Paris, where a larger field, and one more adapted to his powers, was presented. At this time his views were directed to military surgery. He accordingly attended the Hôtel Dieu of Paris, and heard the lectures of Desault. An exceedingly instructive practice was established among the attendants of this surgical course: pupils were selected to make an abstract of the lecture of the day, and this was delivered in the presence of the second surgeon. An accident in a great measure determined the future fortunes of Bichat, for the pupil whose turn it was to have delivered the abstract of a long and important lecture on the fractures of the clavicle, being absent, Bichat offered to supply his place. He was blessed with a powerful memory, and Buisson tells us, that his abstract created the most lively sensation; the purity of his style, the precision, the clearness of his ideas, the scrupulous exactness of his conclusions, announced the pro-

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fessor, rather than the scholar. He was heard with much attention, and retired from the theatre applauded and admired. Intelligence of this talented display reached the ears of Desault, through his colleague Manoury; upon which he desired to be made acquainted with Bichat, and was delighted with his sagacity. It is highly creditable to the character and to the judgment of Desault, that he immediately offered to direct his studies, to receive him into his house, and to treat him as a son. The foundation for his future reputation was laid. Desault took him every where, to his public and his private patients. Bichat became his assistant at his operations, and was also engaged in the prosecution of his patron's literary labours. No individual could possibly devote himself with greater ardour to acquire information, than Bichat; it knew no bounds, he acknowledged no obstacle; by incessant application he accumulated an extraordinary fund of information, which was highly important, as it enabled him to hold up against the almost sudden death with which Desault was attacked in 1795.*

Bichat was now left to depend upon his own resources, and his views began to be developed. In the winter of 1797, he commenced his career as a lecturer, and, not calculating upon a large class, he restricted himself to a small suite of chambers. He had not even a dissecting-room; he confined himself to simple demonstrations; but in these his physiological views extended so naturally from the great discoveries he had made, the result of his genius and observation, and the experiments he performed upon living animals, to demonstrate their truth, excited attention, though not in a degree sufficient to suppress a charge of rashness, when he announced a course of operations at the end of his anatomy; a proceeding at that time very unusual, and only undertaken by the most practised surgeons. His success, however, was complete; but the labour attending such exertions undermined his health, and the necessity of frequent speaking produced a dangerous attack of hæmoptysis. Having somewhat recovered from this, he established a theatre for dissections, which was attended by upwards of eighty pupils. He dissected for the lectures himself, performed his experiments on living animals, and retired in the evening fatigued by the exertions of the day, almost overcome with lassitude and languor—but not to rest; he was engaged, during a great part of the night, in putting Desault's surgical works into proper order, and thus manifested his gratitude to his friend and patron.

* In the fourth volume of the *Journal de Chirurgie*, Bichat paid a deserved tribute of gratitude to his master and friend.

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When we consider that every part of the human body has been most minutely examined, and as minutely described, we may reasonably despair of arriving at any further knowledge on the subject. Any new view, therefore, of the structure of the frame, founded on just observations, entitles its author to the gratitude of posterity. Bichat's system of anatomy, and his mode of considering the subject, originated in his views directed to the membranous system. The observation of M. Pinel, that disease consisted of an alteration in the *tissue* of an organ, seems to have given to Bichat the idea of studying anatomy by a separate consideration of those structures which enter into the formation of the different parts. Pinel profited much by these anatomical researches, as, in a subsequent edition of his *Nosographie Philosophique*, whence the observation referred to was made, he has corrected his classification of the diseases of the fibrous, synovial, and cellular systems.

Bichat's examination of the synovial membranes led him to inquire with the same spirit into all other parts of a similar tissue, and ultimately produced his arrangement of the membranes according to their intimate organization, which must be regarded as one of the most complete systems of classification of the kind that has ever been made. Prior to the time of Bichat, the membranes had not formed any special subject of investigation; they had been examined and described in connexion with the different organs, but never independently of their association with other parts. From the days of Haller to this time, the whole of the membranes were referred to a common origin, and this was traced to the cellular membrane. Bichat saw that, however true in a general relation this arrangement might be, yet that, upon examination, it was found to be under various circumstances very erroneous. He is the first author who has ventured to treat of the subject under different points of view, and he has considered them in relation to their form, organization, vital properties, functions, and sympathies, and classed them in the following manner:—1. *Mucous membranes*. 2. *Serous membranes*. 3. *Fibrous membranes*. These are the simple membranes. Then come the compound, being either—1. *Sero-fibrous*; 2. *Sero-mucous*; or, 3. *Fibro-mucous*. There are also membranes, *contre nature*, or *accidental membranes*. The *Arachnoid* and the *Synovial* form also separate divisions from the little knowledge at present possessed of their organization. Abandoning artificial methods, Bichat had recourse to nature for the establishment of his classification, and has seen grounds for the arrangement in a conformity of structure, and a similarity in the functions of the parts embraced in these divisions. He thus divided them according to the nature of their tissues, their extent, and their uses, and

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shewed their mode of distribution, and classed them in the most ingenious manner. Their intimate structure he fully developed—he sought into their nature, the degrees of vital force possessed by them; this he demonstrated by experiments on living animals, and in this way he elucidated the diseases with which they severally may be affected. Anatomy, physiology, and pathology have been all equally advanced by the labours of Bichat, and the improvements in these departments of science during the last half century are in no little degree attributable to the researches and classifications of this able philosopher. The whole of his views on this subject have been published in a distinct treatise, entitled, *Traité des Membranes*. The first edition was published in 1800. The 2d volume of the *Mémoires de la Société Médicale d'Emulation*, of which Society he was an active and zealous member, and one of the founders, contains his early papers upon this important subject. Three other memoirs by Bichat are inserted in this work; the first on a new trepan, so arranged as to elevate or depress the crown at pleasure by means of a screw; the second, on the impossibility of any displacement occurring when the humeral extremity of the clavicle is fractured; hence the inutility of Desault's bandage: and the third, on a new manner of removing polypi by the ligature.

We must now look at Bichat as a physiologist. His proposed distribution of the two lives of an animal must be looked upon as the foundation of his labours in this department. He says, there is an *organic* life, and an *animal* life. These have their seats in the ganglions, and in the brain. The statement upon this subject will be found in his *Recherches sur la Vie et la Mort*, published in 1799. This work is divided into two parts, one containing the general exposition of his physiological views, the other demonstrating the connexion which exists between the three principal organs of life, the brain, heart, and lungs. The whole work cannot fail to excite the admiration of the reader, although he may not be prepared to admit, to the full extent, all the opinions advanced by the author on the subject of life. Bichat indeed proposed, in a second edition, making several alterations, and giving to the whole a greater degree of precision. He demonstrated the connexion of life with respiration, and showed that black as well as red blood was capable of exciting the contractions of the left cavities of the heart, and he showed that the red blood only was calculated to produce the necessary changes in the tissue of organs for the maintenance of life.

The *Traité des Membranes*, and the *Recherches Physiologiques sur la Vie et la Mort*, rendered an entirely new system of anatomy necessary, and this extraordinary work was effected in the *Anatomie Générale*. Bichat

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arranged the various organs of the body as comprised in twenty-one different tissues:—1. *the cellular system*; 2. *the nervous system of the animal functions*; 3. *the nervous system of the organic functions*; 4. *the arterial*; 5. *the venous*; 6. *the exhalent*; 7. *the absorbent*; 8. *the osseous*; 9. *the medullary*; 10. *the cartilaginous*; 11. *the fibrous*; 12. *the fibro-cartilaginous*; 13, 14. *the muscular of the animal and the organic functions*; 15. *the mucous*; 16. *the serous*; 17. *the synovial*; 18. *the system of the secreting glands*; 19. *the dermoid*; 20. *the epidermoid*; 21. *the pilous system*. Of these he made two classes: 1. the common or generating systems distributed throughout the body, and entering into the composition of the other tissues; and, 2. the organic tissues found only in certain and determinate situations, and never contributing to the organization of each other, or of the general tissues. Of the former are, the cellular, arterial, venous, exhalent, absorbent, and nervous; and of the latter, the osseous, cartilaginous, fibrous, and muscular systems. Although this arrangement cannot be looked upon as perfect, or free from objection, it is not a little remarkable, that no system since offered, although formed principally on the basis of that of Bichat, has been well received by anatomists and physiologists.

This great undertaking is said to have been composed in the course of one year, (printed chapter by chapter as it was written,) a circumstance almost incredible, when the other labours of Bichat in teaching, dissecting, &c. are considered. A system of descriptive anatomy (*Traité d'Anatomie Descriptive*) followed. The first two volumes were published by Bichat; the remaining three volumes were left imperfect, but have been completed and published by Buisson and Roux. Then an edition of the works of Desault, with many additions by the editor. He was also engaged in preparing a system of pathological anatomy, founded upon his experiments on living animals, containing researches of the deepest interest and the greatest ingenuity.

Bichat was appointed physician to the Hôtel Dieu in 1800, the duties of which were considerable. He did not, however, allow them to interfere with his other engagements, nor did he show any neglect in the performance of what was required of him at the hospital. In giving clinical instruction, he is described as pre-eminent—the pupils regarded his opinions as oracles, and treasured them up accordingly. He was indefatigable in the examination of the bodies of those who died under his care, and also of that of his colleagues. He is said to have examined upwards of six hundred bodies during one winter; and by this, his store of pathological information was greatly increased. He was able to show the correctness of his views

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relative to the independence of the tissues by investigating the diseases with which they were separately affected, and to this method much of the precision of modern pathology must unquestionably be attributed. He even contemplated a new classification of diseases. The *Materia Medica* formed also a subject of Bichat's attention. His appointment to the Hôtel Dieu enabled him to prosecute this branch of science. He felt the necessity of classing medicines, from the influence which they exercise over the vital properties; and he was desirous of demonstrating their sympathetic and direct actions upon the different organic systems. He was assisted in this important and difficult inquiry by no less than forty pupils, who, under his directions, gave daily reports upon the same, the progress of which was announced in a regular public lecture delivered daily by Bichat. Pairier, in his "*Dissertation sur les Emétiques, précédée de considérations générales sur la matière médicale*," Paris, 1805, 8vo., and Gondret, in his "*Dissertation sur l'action des Purgatifs*," Paris, 1803, 8vo., have given some of Bichat's views on the subject of the *materia medica* generally.

But the labours of Bichat were to be brought to a close. Death, whose nature, physically speaking, he had so well described, was now to visit him. He sustained a fall in descending a staircase at the Hôtel Dieu, from a room in which he had been for a considerable time examining preparations in maceration, and from which, of course, putrid emanations were being sent forth. He was taken up suffering under a slight concussion of the brain, and he was much bruised. He was subject to a disordered condition of the stomach and bowels; fever succeeded; his usual gastric derangement ensued; he became comatose, and died on the fourteenth day of the disease, on the 22nd of July, 1802, in the 31st year of his age. That any one should have accomplished so much, and of such a nature, so original, so vast, so practical, and, it may be added, so perfect, in such a short period of existence, is only to be attributed to the possession of genius, accompanied by the most patient and indefatigable industry. He may be said to have purchased learning at the expense of the richest soil of human happiness, and, having impaired his health, prematurely deprived society of a man whose greatest fault was, an activity of mind disproportionate to his strength.

" Upon such sacrifices
The gods themselves throw incense."

LEAR, Act v. scene 3.

The period of his life was no doubt curtailed by his great exertions; but if the age of a man is to be estimated by what he has done, rather than the number of years that have passed over his head—and Lord Bacon tells

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us, "a man that is young in years, may be old in hours, if he have lost no time"—then Xavier Bichat had attained an extreme longevity.

"That life is long, which answers life's great end,
The time that bears no fruit, deserves no name;
The man of wisdom is the man of years."

YOUNG.

His works will live, though their author be no more; but his memory will ever be cherished as one of the benefactors of the human race. Deeply to deplore the death of any individual occurring in the meridian of life, and in the midst of his sphere of usefulness, is, perhaps, a just as it is a natural consequence of such an event; but how much is the intensity of this feeling increased, when the subject of it is one by whose exertions mankind have been so greatly benefited. Bichat fell a victim to his zeal for science and his profession, and died in the height of his prosperity and reputation. No one was ever more sincerely mourned; his loss was a national one, and such it was felt to be. Corvisart communicated the intelligence of the death of Bichat to the first consul, Napoleon Buonaparte, in the following words: "Bichat vient de mourir sur un champ de bataille qui compte aussi plus d'une victime: personne en si peu de temps n'a fait tant de choses et aussi bien." Ten days after this, the government caused his name to be inscribed, together with that of Desault, on a memorial erected at the Hôtel Dieu in honour of these most distinguished men. The following is the inscription:

"Ce Marbre dédié à la Mémoire des Citoyens DESAULT et BICHAT a été posé pour attester la reconnaissance de leur contemporains, pour les services qu'ils ont rendus, le premier à la Chirurgie Française dont il est le restaurateur, le second à la Médecine qu'il a enrichie de plusieurs ouvrages utiles, et dont il eût aggrandi le domaine si l'impitoyable mort ne l'eût frappé dans sa 31 année."

More than five hundred students followed Bichat's remains to the tomb, and M. Le Preux pronounced a discourse at his interment.

The life of Bichat has been written by Buisson and by Husson. An historical notice has also been published by Sc. Pinel. Hallé delivered an *Eloge* before the Faculty of Medicine of Paris; and Sue, at the commencement of his course of Medical Bibliography.

In all the relations of life, Bichat was most amiable. He was a stranger to envy, or any other hateful passion. Modest in his demeanour, but lively in his manners, which were open and free. He was much beloved. To his

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father he was most devotedly attached, and to him his work is dedicated in the following simple but expressive manner: "*A mon Père et mon meilleur Ami.*" He was of middling stature, and his countenance was agreeable; his eyes were piercing and expressive. The portraits of him generally fail of giving a precise resemblance; that which accompanies this memoir is admitted, by all who knew him, to be the best likeness, and in every point satisfactory.

His head was very remarkable, and Cloquet (*Traité d'Anatomie*, tom. i. p. 82, planche xxix.) has given a representation of his skull, as a specimen of the Caucasian variety of the human race. It is singularly irregular as to its formation, the left side projecting much beyond that of the opposite. The sutures are also irregular, and the defect of symmetry is as evident in the interior as it is on the exterior of the skull. The forehead is particularly large and capacious.

It is scarcely necessary to remark, that the works of Bichat have been translated into various languages, and have gone through many editions. They may be arranged in the following order:

1. Notice Historique sur Desault, Paris, 1795, 8vo.
2. Description d'un nouveau Trepan, Paris, 1799, 8vo., in the *Mem. de la Soc. Med. d'Emulation*, tom. ii. p. 277.
3. Mémoire sur la Fracture de l'extrémité scapulaire de la Clavicule. Ibid. p. 309.
4. Description d'un procédé nouveau pour la ligature des polypes. Ibid. p. 339.
5. Mémoire sur la membrane synoviale des articulations. Ibid. p. 350.
6. Dissertation sur les Membranes, et sur leurs rapports généraux d'organisation. Ibid. p. 371.
7. Mémoire sur les rapports qui existent entre les organes à forme symétrique et sur ceux à forme irrégulière. Ibid. p. 477.
8. Traité des Membranes en général, et de diverses membranes en particulier, Paris, 1800, 8vo.
9. Recherches Physiologiques sur la Vie et la Mort, Paris, 1800, 8vo.
10. Anatomie Générale, appliquée à la Physiologie et à la Médecine, Paris, 1801, 2 tom. 8vo.—1812, 4 tom. 8vo. Beclard published additions to this work in 1821.
11. Traité d'Anatomie Descriptive, Paris, 1801, 2 tom. 8vo. Completed by Buisson and Roux, in 5 vols 8vo.
12. Pathological Anatomy: the last course, from an autograph MS. of P. A. Beclard, 8vo.
13. Œuvres Chirurgicales de P. J. Desault, Paris, 1812, 3 tom. 8vo.



La Phundeli

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“Animo vidit; ingenio complexus est; eloquentiâ illuminavit.”

PATERCULUS.

IN the preceding Memoirs, it hath been the writer's aim to dwell upon the qualifications essential to a practitioner of the medical art, and to illustrate the several points by reference to particular individuals. To accomplish this object, a Biographical History of Medicine, embracing a notice of all those who have contributed to the advancement of Medical Science, seems peculiarly fitted. A late venerable prelate,* no less characterized by his great piety and erudition than by the sweetness of his disposition and the entire harmony of his nature, whom to have known is esteemed by the writer of this article a high honour and great gratification, has given it as his opinion, that “Biography is certainly one of the most amusing, and may be made one of the most useful, species of literary composition, when the subject of it is a person very eminent, either in point of talents or of situation, because the sentiments and conduct of such a person cannot but have considerable weight with others.” These observations apply with especial force to the physician whose name is affixed to this memoir, for in him are to be found all that is requisite to form the physician, the physiologist, and the man of science. His classical attainments are of a high order, and his professional not less distinguished. The proper education of a physician leads not only to a full acquaintance with the knowledge of his particular science, but to the cultivation and improvement of the highest faculties of his mind, the formation of a perfect taste and a sound judgment. In no science is metaphysics of greater aid than in that of physiology; but few physiologists are metaphysicians, or even logicians. Yet how is it possible, without this knowledge, to distinguish between true and erroneous reasonings, to mark probabilities from facts, or hypothesis from theory?

* Bishop of Norwich.

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As applying, however, to living substances, (the ordinary signification of the term,) it naturally falls under the division of human and comparative; the former appertaining to man alone, the latter to the inferior or brute animals and to plants. Dr. Blundell has arranged the animal powers under the heads of assimilation, organization, ventilation, motion, generation, the powers of the mind, and those powers which are operative in the two states of vitality, passive as well as active. He considers all that has hitherto been written on the subject of organization, to be merely superficial and ill-ascertained, and that the knowledge we possess of the sensorial powers, or the powers of the mind, is in a very confused state. He has powerfully delineated the two distinct classes of men, as it relates to their intellectual powers; those who rather receive knowledge and communicate it, and those of more vigorous powers, capable of thinking for themselves, fond of thinking for themselves, men who take more pleasure in the operations of the intellect, than in the Circean styes of sensuality. This class of men are not satisfied with merely acquiring those parts of science which are already known, but they make incursions into unknown regions, and subjugate, as it were, fresh territories of the intellectual world. To the former he recommends assiduity; to the latter, whom he styles the "demigods of the human species, the cementing link between man and superior intelligences," he holds a different language. And, he adds, "I love physiology for the good it has done for the human race, but I am ashamed to confess how full the system is of errors, how full of false opinions, how fettered with prejudices, by which, like Enceladus under *Ætna*, even the most vigorous minds are oppressed. *Think for yourselves*, is the first lesson which I would inculcate: do not let my opinions, or the opinions of any of my distinguished colleagues, have more weight with you than truth and nature entitle them to. In religion, faith is essential; in physiology, a philosophical scepticism."

In a preceding Memoir, (Baron Haller,) the subject of inflicting pain upon, and occasioning the death of animals for scientific purposes, has been considered. Dr. Blundell has argued this matter in a most able manner, and it cannot be better stated than in his own words:—"They who object to the putting of animals to death for a scientific purpose, do not reflect that the death of an animal is a very different thing from that of man. To an animal, death is an eternal sleep; to man, it is the commencement of a new and untried state of existence. Can no object whatever justify us in putting animals to pain? Are not the very persons who raise these objections, in the habit of torturing animals in hunting? Do they not murder pheasants and massacre partridges? Is not pain daily

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and hourly inflicted on the inferior animals, to contribute to the support or pleasure of man; and shall it be fastidiously objected to, when inflicted for the purpose of advancing physiological and medical knowledge? Shall it be said that the objects of physiological science are not worth the sacrifice of a few animals? Men are constantly forming the most erroneous estimates of the comparative importance of objects in this world. What influence, I ask, has the battle of Actium now on the destinies of mankind? what will the battle of Trafalgar have a thousand years hence? Of what importance is it now to mankind, whether Antony or Augustus filled the imperial chair? and what will it matter, a few centuries hence, whether England or France swept the ocean with her fleets? But mankind will always be equally interested in the great truths deducible from science, and in the inferences derived from physiological experiments. The fact that life may be saved by the transfusion of blood into the veins, will be as beneficial a thousand years hence as it is at this day. I will ask, then, whether the infliction of pain on the lower animals, in experiments, is not justified by the object for which those experiments are instituted, namely, the advancement of physiological knowledge? Is not the infliction of pain, or even of death, on man, often justified by the end for which it is inflicted? does not the judge sacrifice the criminal for the good of society? and the general lead his troops to slaughter, to preserve the liberties of his country? It is not the infliction of pain or death for justifiable objects, but it is the taking a savage pleasure in the infliction of pain or death, which is reprehensible. The Iagos and Zelucos of the human race, the man-tigers, who delight in cruelty, are just objects of abhorrence; but when animals are sacrificed on the altar of science, that nature may reveal her secrets, the means are consecrated by the end for which alone experiments are instituted by the votaries of knowledge, and the friends of the human race. Here, then, we take our stand; and we defy the puny drivellers of the press, the declamatory and spurious orators of the day, to drive us from it. We defend the sacrifice of animals, in so far as it is calculated to contribute to the improvement of science; and, in those parts of physiological science immediately applicable to medical practice, we maintain that such a sacrifice is not only justifiable, but a sacred duty."

The argument contained in the foregoing passage is pursued by reference to the importance of transfusion, and other experiments by which human life has been saved, and most completely repels the abuse, and exposes the weakness, of that reasoning by which it has been attempted to check the progress of physiological knowledge, by raising an idle cry

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connected with, a morbid or peculiar condition of the blood ; and Dr. Lower in 1660 proposed to establish a new method of cure by transferring the blood of animals into that of the human species in such a way as to abstract all that was morbid or diseased, and to substitute in its place that which was healthy. This subject excited very great attention, and the happiest results were anticipated from its introduction : but, alas ! in the instances in which it was resorted to, it proved fatal ; and the practice excited such serious apprehensions for the safety of the individuals on whom it was proposed to be employed, that we find the French legislature absolutely publishing an edict to forbid the having recourse to it. The earliest experiments are said to have been made in France, and the first attempt by Hansheau in 1658. Lower perfected it in 1665. Denis, a physician described as “plus occupé des jeux de hazards, que des jeux de la machine animale,” subjected a man to the experiment. The Italians repeated it in 1668, Biva and Manfredi making the experiments. In Flanders, Sinnabaldus did the same. The first four volumes of the Philosophical Transactions relate the cases in which it had been employed, and with such unsuccessful results. It remained for our own day to demonstrate that the practice may be, under some particular circumstances, resorted to with perfect safety and success, and to Dr. Blundell chiefly the merit of this discovery is owing. From his experiments, it appears that blood may be transferred from one animal into another, provided it be of the same species ; but if of one animal into another of a different species, then the result is fatal. The experiments of M.M. Prevost and Dumas have confirmed those of Dr. Blundell. The manner in which he arrived at this knowledge deserves to be particularly noticed. The numerous cases of recovery from suspended animation, or rather respiration, in instances of suspension, or of hanging, sufficiently attest that death is at first *apparent*, not *real* ; and Dr. Blundell very fairly presumes the same to hold good in cases of asphyxia from the loss of blood ; and to these, in particular, he proposes to resort, to the practice of transfusion. This reasoning and the following circumstance, led him to consider of and to institute a series of experiments upon the subject. He was called to a case of uterine hæmorrhagy, which notwithstanding every exertion on the part of the medical attendants, proved fatal. There were circumstances which gave to the case a peculiar interest, and Dr. Blundell, reflecting upon the operations performed by himself upon animals, as well as some interesting experiments made by his pupil Dr. Leacock, and detailed in his thesis, could not forbear considering, that by the ancient process of transfusion the woman might probably have been saved. The apparatus formerly employed was of such an elaborate and complicated character, that sufficient time could not have been obtained for its perform-

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ance, that he thought the vessels might be replenished by the syringe with facility and promptitude. It was not, however, yet ascertained how far blood would be fitted for the purposes of the animal economy, after passing through such an instrument, and he therefore resolved to put the matter to the test of experiment. With this view, he instituted a series of experiments upon dogs, and he satisfactorily proved that the transfusion of blood through the syringe does not unfit it for the animal purposes. Blood taken from the femoral artery was directed into the femoral vein, and this was done during the lengthened period of twenty-four minutes, the blood throughout the whole period rushing from the artery, entering the cup, passing the syringe, and returning to the vein, without the animal sustaining any material injury. It was ascertained that from the femoral artery about half a pint of blood would be discharged in the course of two minutes, and as the artery was allowed to give off its blood during the whole time of the experiment, not less than twelve pints of blood must have been received into the cup, and thence transmitted through the syringe to the vein. The whole weight of the animal did not amount to twelve pounds, hence the same blood must have passed through the syringe repeatedly; and the point therefore as to the fitness of the blood for the purposes of life after passing through the instrument must be considered as perfectly established.

Venous blood, Dr. Blundell has shewn, will revive or resuscitate an animal; a point of great importance as it respects the practice of transfusion in the human species. There is reason, however, to suspect that arterial blood would be more beneficial; but the difficulties which present themselves in obtaining a supply, are too great to be readily overcome. Dr. B. has, however, recommended a recourse to the temporal artery. A few months after the publication of the experiments to which allusion has been made (Sept. 26, 1818,) Dr. B. had an opportunity of transfusing blood into — Brazier, a patient in Guy's Hospital, under the care of Dr. Cholmeley for an incurable scirrhus disease of the pyloric orifice of the stomach. Such a case presents a most unfavourable subject for the treatment; yet the man was dying from inanition, and, to prolong life, he was himself anxious that it should be tried. The transfusion of between twelve and fourteen ounces of blood into the cephalic vein of his arm, in the course of 30 or 40 minutes appears to have produced temporary benefit; his strength was somewhat recruited by it, and his pulse became larger, and the temperature of his body higher. The man stated himself to be revived by it, and to be "better, much better." Yet the operation not being repeated, he again sunk into a state of great exhaustion, and died fifty-six hours after the blood had been supplied. This case served to establish the safety of the operation, and to shew that under other circumstances it might be attended with more

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favourable results ; and, in Aug, 1825, Dr. Blundell had the great satisfaction of operating on a woman who was sinking from after-flooding, and on which occasion the operation was crowned with signal success.

The example of Dr. B. has had its influence upon the profession, though not to the extent that might reasonably have been expected. Emboldened by the preceding case, however, Mr. Doubleday operated a short time afterwards, and he has the merit, and the inexpressible gratification, of having been the means of saving by the transfusion of blood the life of a female, who but for its use must have been numbered with the dead, from the consequences of an uterine hæmorrhage. Brandy, laudanum, ammonia, and other stimuli usually employed in such cases, were found to be of no avail. Fourteen ounces of blood were injected from the arm of her husband, and she recovered. The case is circumstantially detailed by Mr. Doubleday, in the London Medical and Physical Journal for Nov. 1825. It appears that the pulse, some time previous to the operation, when it could be numbered, was 140, but was now reduced to 104. A quarter of an hour after the operation it was 98, in half an hour 90. The pulse, for the most part, was strong, soft, and full, but somewhat irregular, and continued so for upwards of two hours. At about the expiration of an hour after the blood was injected, she sat up, and assisted the nurse in undressing, and in making herself more comfortable, as if nothing had occurred beyond what is to be observed in ordinary cases !

Acting upon the two successful cases referred to above, Dr. Blundell succeeded in restoring Mrs. B. of Fleet-street, Nov. 10, 1825, from asphyxia, the consequence of uterine hæmorrhage. Twelve ounces of blood taken from the arms of Dr. Uwins and Mr. Wright, her medical attendants, were injected into the venous system. It is now thirteen years since the operation, and the lady is still living.

In 1827, Mr. Brown, a practitioner in Southwark, had a case similar to the preceding. Transfusion was resorted to, and from a state of apparent dissolution she completely recovered. Dr. Blundell does not consider it necessary to inject any large quantity of blood in these cases. The average has not been ascertained ; but a small quantity is sufficient to turn the balance in favour of life. He thinks from half a pint to a pint an ample supply in all cases of asphyxia from uterine hæmorrhage. He candidly states, that in nineteen out of twenty cases of this description, transfusion will not be needed ; but he boldly maintains that, "under the best and most judicious treatment, and certainly under treatment of average excellence, dissolution may occur, sometimes so suddenly that you have not time to act ; more frequently in a gradual manner, so that you see the patient sinking slowly, little by little, into the grave."

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In some of these cases, life may be restored by transfusion. It never can be necessary to throw in a quantity of blood equal to that which has been lost; a sufficiency to enable the heart and arteries to control and to support the patient long enough to allow the vessels to accommodate themselves to the quantity in circulation, is all that will be requisite.

Dr. Blundell states, that although the blood of the mammalia may be essentially the same in all the genera, the different kinds of blood differ very importantly from each other. He suggests an inquiry, whether any genus of animals be furnished with a kind of blood congenial to the human veins? From recent experiments made in France, this can hardly be expected to be resolved in the affirmative. The odour of blood is very remarkable, and M. Barruel (*Journal de Science* N.S. vi. 187.) has declared this fluid to contain a volatile principle peculiar to each species of animal. He states this principle to have an odour resembling that of the cutaneous or pulmonary exhalation of the animal, and to serve as a distinctive character by which the blood of different animals may be recognized. This principle is dissolved in the blood, and the odour may be perceived when the blood or its serum is mixed with strong sulphuric acid. The odour is said to be stronger in the male than in the female—in man, to resemble the human perspiration—in the ox, to smell like a cow-house—and in horses, to be similar to their perspiration. This is a subject of curious inquiry, and highly deserving of attention, as it may become an aid in some cases of medical jurisprudence.

A summary of Dr. Blundell's personal experience in transfusion may thus be stated: the operation has been performed *eleven* times by his own hand, ten times in cases of most pressing danger from loss of blood, and once in a case of inanition from scirrhus of the pylorus, and consequent starvation. Of these ten cases, in nine only was there any reasonable prospect of success, one of them being a case in which the patient had ceased to respire five minutes before the first supply of blood was thrown in. Of the nine operations, five failed, and four succeeded. Of the five failures, one might be reasonably imputed to an insufficient supply of blood, six ounces only having been injected; but the other four failures most clearly arose from the insufficiency of the remedy, the patients sinking within half an hour or an hour from the performance of the operation. In all the ten cases, venous blood was employed. In four of the cases of failure Dr. Blundell thinks it highly probable that arterial blood would have been more successful. Of the four cases which succeeded, in three the success was complete, one of the patients being still living, thirteen years after the operation, and the other two he presumes to be living still. The fourth

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case was successful in part only; the patient was completely resuscitated, lived for two or three days, and seemed to be doing well, but sank from effusion into the thorax, where extensive old thoracic adhesions were found. In all these four cases the operation was not performed till, with large experience in these matters, he felt that there was no other hope for the patient. Of all the ten cases, in two only did the operation seem to distress; its general effect was cordial; and of these two cases, in one only, where, in his zeal to save the patient, a more than ordinary quantity of blood was injected, was the distress considerable. In the second case, however, the distress was painful to witness. After all his experience, he has assured the writer of this, that, were a friend of his own sinking from the effects of flooding, he would strongly recommend the remedy, and, if to be had, arterial blood.

At the close of each physiological course, Dr. Blundell was in the habit of publishing in the class-room a list of the more interesting problems relative to the animal economy, which had furnished subjects for investigation. Very few of these have been printed, and the notice of some of them cannot but be highly interesting to the physiologist.

1. *On Chylification*.—A set of experiments designed to ascertain whether the bile must mix with the chyme in order that the white chyle may appear. From these experiments it was found,—1. That white chyle does *not* make its appearance when the bile is excluded from the chyme, as, for example, by tying the ductus communis choledochus. 2. That the white chyle *does* make its appearance when the bile mixes with the chyme. These experiments were completed before the commencement of the year 1817, were first published in the class-room a year or two afterwards, and were annually brought forward in the lectures till the course ceased abruptly in 1834, when Dr. Blundell quitted the school. One of the most striking experiments was repeated before his physiological class year after year. Chyme was enclosed in a bag of black silk: fluid from the chyme was then expressed through the pores, and was found not to become white; the bag was then dabbed upon a plate moistened with cystic bile, which it immediately absorbed; the fluid of the chyme was then again pressed through the silk, when it immediately became white: where the bile was, a fixed white stain remained.

2. *On Coagulation of the Blood*.—A set of experiments designed to ascertain the nature of that vascular power which resists the coagulation of the blood. From these experiments it was found, so far as experiments were made,—1st. That whatever destroys the vitality of the vessel destroys also equally the power of resisting coagulation; and, 2d, That whatever does *not* destroy the vitality of the vessel, does not destroy the power of resisting coagulation; whence it was inferred to be *probable* that the power of resisting coagulation is the life in the coats of the vessel, and that this power is exerted by the communication of the vitality to the blood; the latter clause of the conclusion especially being advanced as a probability only. These experiments were brought to a close before the commencement of the year 1818, and, like the former, were published in the class-room annually, in the physiological lectures.

3. *On the Blood as Aliment*.—An experiment designed to shew that the necessity of food may be superseded by supplying blood to the vessels of an animal in a direct manner. In this experiment a dog was sustained for three whole weeks without the help of any food whatever; its drink was water, and its nourishment a few ounces of blood from another dog every day, or every other day, injected into the external jugular vein. The dog never appeared hungry; at the end of the three weeks, though

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unwell, it seemed still in no danger of sinking. And, on the whole, the great point of investigation appeared to be in good measure ascertained, namely, that the necessity for eating may be superseded by regular injections of blood into the veins; in other words, that it is possible to live for a length of time without food. This experiment was made in the spring of 1819, in the hope that it might be of use in saving life in cases similar to that of Brazier, the patient who died in Guy's Hospital from the impossibility of retaining and digesting supplies of aliment. The purpose of the experiment is mentioned, to shew that it was not wantonly made. The particulars are to be found in Dr. Blundell's "Researches."

4. *On the Life of the Fetus.*—Certain observations made to prove that the fœtus *in utero* feels, that it has apparently sensibility, some desire of nourishment, volition, perhaps instinct, and, in a word, that it possesses *in utero* most, if not all, the powers of active life which it enjoys immediately after birth. These observations were made before the year 1820, and were published in the class-room soon after.

5. *On the Coagulability of the Fetal Blood.*—The blood obtained for the purpose was generally taken from the umbilical vein of the funis of the human subject. From these experiments it was found,—1st. That this blood generally coagulates; 2d. That in the main it separates in the ordinary manner into serum and crassamentum; and, 3. That the upper part of the clots exposed to the air brightens, and becomes of a more scarlet arterial colour than the lower; in a word, that in all that is essential, the blood of the human fœtus coagulates like the blood of the human adult. Two curious observations were made in the course of these experiments,—1. That the blood of the fœtus of only seven months obeys the general law, that it coagulates, that it separates the serum, though in sparing quantity, and that the upper surface of the crassamentum brightens on exposure to air; and, 2. That the blood of the nine-months' fœtus sometimes, though rarely, coagulates in appearance only; the serum separating fully, the crassamentum, to the eye at least, forming distinctly in the usual manner, but this apparent crassamentum being destitute of solidity, and falling to pieces immediately under the touch. The last of the experiments was made before the year 1823.

6. *A set of experiments to prove that large raptures in the body of the bladder may occasionally be cured by laying open the peritoneal cavity, closing the aperture in the bladder by means of a ligature, withdrawing the urine from the cavity of the peritoneum into which the rupture discharges it, and washing out the peritoneum with tepid distilled water.*—In some of these experiments, it was found, that in rabbits one-third of the bladder might be cut away, and that the large aperture remaining might be closed up by ligature; that several of the animals recovered afterwards, and that the bladder of reduced size continued to perform its functions. An eminent surgeon, acting (as he himself told Dr. Blundell) on the principle of these experiments, once tied up an aperture in the stomach, and thereby saved the life of a patient. This fact should be recorded, and the particulars of the case published, as it deserves the candid consideration of those who object altogether to experiments upon animals. The life of the man was here probably saved by the sacrifice of rabbits, which would have been killed to supply his physical wants, had they not thus been rendered subsidiary to the higher office of contributing to his intellectual improvement. The experiments were completed before the year 1823.

7. *On the Power whereby the Muscular Structure of the Heart contracts.*—The experiments were six or seven in number, and in them the heart taken from a dog newly drowned, was laid upon a plate, and a pipe was introduced into the coronary vein, preferred to the arteries on account of its larger capacity, its single trunk, and the opportunity of ascertaining the effect of a reversed circulation. The arterial blood of another dog was then made to circulate through the coronary system of vessels, the blood entering by the vein, which performed the office of an artery, and escaping by the two arteries which performed the office of the vein; the circulation becoming reversed. In one of the experiments only was the circulation fully established, when it continued for more than ten minutes, and the heart, before pale, flaccid, lifeless, and without any visible contraction, became of a full red, firm and active; all the fibres were in a quiver, and, when grasped by the hand, a strong throbbing action of the ventricles, the left especially, might be felt, though the cavities were empty, and the heart was hanging from the tube which supplied it, like an apple from the sprig: the labouring of the ventricles was obvious, but not attended with the full systole and

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diastole which accompany the true circulation of blood. These experiments were completed before the year 1825, (the last was made in October, 1824,) and were published annually in the class-room afterwards. Besides throwing light on various other points of physiology, they go far to prove the superiority of arterial blood for the purposes of restoring the powers of the heart, when failing from flooding, &c.; in other words, the superiority of this blood for the purposes of transfusion.

8. *A set of Experiments designed to refute the erroneous opinion of Barry and others, that the Blood enters the Heart through the great veins during inspiration only.*—One of the most striking of these experiments was made in a diving-bell, at the bottom of the Thames; the atmosphere of the bell being, at the time, nearly of double density. “With a minute watch in my hand, I found that for nearly two minutes together, I could suspend respiration without material distress or disorder of body or mind, the pulse beating all the time in the radial artery with the utmost regularity. Now, as several pints of blood must have passed the heart in the course of the two minutes, allowing only three half ounces for each stroke of the left ventricle, it was clear that several pints must have entered from the veins; and as neither the circulation nor other functions were disturbed during the experiment, it was evident that the blood must have been flowing from the veins into the heart in the usual manner during the whole period, and yet throughout this whole period, the inspiration was completely suspended, whence it follows that the blood flows from the great veins into the heart in the usual manner, without the aid of inspiration.” This experiment was made at the time of the irruption of water into the tunnel, when the first catastrophe occurred, in the year 1827.

9. *Experiments to prove that in Poisoning by nux vomica, and probably other poisons of similar operation, the poisonous dose which destroys life, is not contained in the circulating blood of the animal.*—In three experiments it was found, 1. That if a dog be poisoned with the minimum dose of strychnine sufficient for the purpose, its life cannot be saved by drawing off its blood when the poison is getting into full action, and replenishing it with blood from another and healthy dog. The vessels in some experiments were three times washed out, as it were, by drawing away the poisoned blood from the same animal when under the influence of the poison, and as frequently replenishing it, yet without preserving life. 2. That if a dog be drained of its blood, and replenished from another dog under the influence of the poison, the dog which receives is not poisoned by the blood thrown in, nor does it in general manifest any obvious signs of the presence of the poison: in one experiment, however, characteristic spasms were observed in the dog receiving blood from another dog under the full influence of the strychnine, though even in this case the animal speedily recovered. An interesting observation was made in conducting these experiments, namely, that a dog cannot be poisoned by very large doses of *opium* in its different forms.

From the whole of these experiments it was found, that when an animal is poisoned by strychnine, some of the poison is contained in the circulating blood, but the quantity there contained is not sufficient to destroy life. The poison was inserted by an arrow passed into the muscles of the neck. These experiments were completed before the year 1828.

In the *Lancet* for 1827-8, reports of Dr. Blundell's lectures on Midwifery made their appearance. These were afterwards collected together, arranged, subdivided, and commented upon by Dr. Castle, and in 1834 published under the title of “*The Principles and Practice of Obstetrics*.” This work has acquired a very just celebrity. Dr. B. lectured on Midwifery in the neighbourhood, and afterwards in connexion with, the Medical School of Guy's Hospital, from the year 1816 to 1834; and his withdrawal at this period was a matter of very deep regret to a large body of medical students. The circumstances which induced him to retire from the chair of Midwifery, gave rise to the publication of some pamphlets which reflect no credit on

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those who acted in opposition to Dr. Blundell upon this occasion. Dr. B.'s conduct in this affair has been marked by that high sense of honour and independence which should characterize a professional man in such matters. "*Transeat in exemplum.*"

It appears that an attempt was made on the part of the Treasurer or Director of Guy's Hospital, to associate a gentleman with Dr. Blundell in the performance of his duties as a teacher, and that advantage was taken of his absence from England, to advertise this person as a colleague, without the sanction of Dr. B. The Doctor has publicly charged the Treasurer with being "a party to an unwarranted use of his name, under circumstances of deliberate assumption and broken engagement." This conduct will be seen to be most extraordinary when it is made known that the course of Lectures was in its origin private, and established long before the Medical School of Guy's Hospital had an existence. It was purchased by Dr. B.'s labour; illustrated by his private museum; supplied with practice from his private institution, (till the last year or two wholly;) and though annually advertised with the other Hospital lectures, yet, as far as right was concerned, it was advertisable when and where he thought fit. The conduct on the part of the Treasurer induced Dr. Blundell to withdraw his museum from the Hospital, and to conclude his labours as a teacher; a resolution much to be regretted, on account of his great abilities to instruct, and the vast professional acquirements he possesses; but it was a step for which no one can censure, but, on the contrary, must applaud him, for it shews a proper sense of what is due to himself and the honour of the profession.

The Lectures of Dr. Blundell display considerable sagacity, and acquaintance with his profession. They shew him to be an intelligent and keen observer; and to be a most faithful reporter, devoid of all prejudices, and anxious to give to every one the merit that is due to them, by the most honest and liberal conduct. The work is divided into five parts: the first two of which relate to the anatomy and physiology of the Female System; the third, to the signs and diseases of Pregnancy; the fourth, to the art of Delivery; and the fifth, to the after-management of the Puerperal State. Upon all these subjects Dr. Blundell communicates the extent of knowledge already acquired, and illustrates it by his own researches and experience. He takes every opportunity of doing justice to the physiological inquiries of his predecessor and relation, Dr. Haighton, one of the best experimenters of his day. Any analysis of the work must be entirely out of the question; it must be referred to, and read, with the greatest care. Of its merits, it is sufficient to observe, that a very competent authority has spoken of it as "a mine of gold—a treasure of literature, science, and practical know-

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ledge for the student, which it would be suicidal madness in him to neglect, or fail to have constantly in his possession for reference." (Johnson's Med. Chir. Rev. No. 43.) In the last division of the work, a disease is noticed, of very considerable importance. Dr. Blundell has named it Hidrosis or Hidrotic Fever. There are various types of this disease; the severe ones are dangerous, and the malignant almost uniformly fatal. In its commencement it resembles the puerperal fever, and is ushered in by a shivering or shuddering with a sense of cold more or less severe; the pulse changes in its frequency in a most remarkable manner, rising up from 90 to 140 or 150 suddenly, without any evident cause. Dr. B. observes, that there is not unfrequently a morbid state of the nervous system, which shews itself in a certain quickness of manner, a rapidity of utterance, or a disposition wayward, pettish, or passionate; sometimes, also, the patient becomes the subject of whimsical impulses, either of a comic or tragic character, so that there is an evident tendency to puerperal mania, which may ultimately, though not generally, occur. On the other hand, the patient's manner is now and then marked with a sort of forced coolness, and in some cases there is no very obvious disorder of the nervous system, for these symptoms are not constant."

From the preceding sketch, it will be evident that the career of Dr. Blundell has been one of great assiduity and usefulness, and it is gratifying to add, that his talents and zeal are no less appreciated by the public, than his abilities and integrity are admired by the profession. He has faithfully noted in his "Adversaria" the various physiological experiments he has made, and has accurately minuted the particulars of cases which have been entrusted to his care. It is ardently to be hoped that he will be able to find leisure to arrange these, and submit them to the notice of his profession, and thus confer additional obligations on its members, and contribute to the further advancement of medical knowledge. "Non enim vox illa præceptoris, ut cæna, minus pluribus sufficit; sed ut sol, universis idem lucis calorisque largitur."—*Quintilian*.



Joanes Cairns

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“Unde Doctoris titulo gloriantur, nisi ut doceant?”—ERASMI EPIST.

JOHN CAIUS, or, in English, Kaye or Key, may justly be regarded as the successor of Linacre, having been appointed to the presidency of the Royal College of Physicians, and also physician to the court during the reigns of Edward VI., Queen Mary, and Queen Elizabeth. He was no less his successor in his tastes and pursuits, for they alike cultivated letters, medicine, and natural history. He was the son of Robert Kaye, of a Norfolk family, and born on October 6, 1510, in the city of Norwich; where he received his earliest education, and was thence sent to Gonvil Hall, Cambridge in 1529. At this college he took the degrees of Bachelor and Master of Arts, and in 1533 was elected one of the Fellows. At the early age of twenty-one he is said to have translated out of Greek into Latin, Nicephorus Callistus's treatise of “Confession in Prayer;” also Chrysostom on the “Manner of Prayer,” and Erasmus's Paraphrase on Jude, from the Latin into English. He also made an Epitome of Erasmus's “De Vera Theologia.” From these exercises, it might have been expected that he had selected divinity for his profession; but, like to his predecessor Linacre, he travelled for improvement, and visited Italy, France, Flanders, and Germany. At the university of Padua he studied under John Baptist Montanus, a most eminent scholar; and in 1541 he took a Doctor's degree in physic. When at Padua, Caius lived during eight months in the same house with Vesalius, together studying anatomy. Upon his return to England, he taught this science to the surgeons, soon after their incorporation in 1540, and he continued to do so for twenty years, even after his election to the chair of the College of Physicians, and appointment of physician to the court. He read lectures on physic at the university of Padua for some years, and also lectures on Aristotle, (about the year 1542,) but it is said he took his degree at Bologna.

He returned to England in 1544, and commenced practice at Cambridge, then at Shrewsbury, and afterwards at Norwich. He was admitted a Fellow of the London College of Physicians, and, from the records of the college, it appears that he passed through all the offices, for he was

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appointed censor, registrar, treasurer, and, for seven years and upwards, president of the college. He kept a record of the proceedings forming the annals of the college from the year 1555 to 1572. This is written in Latin, in his own hand, very clear and precise in its style, and forms the earliest account of the transactions of that body. He is said to have been so precise in his attendance at the college, as never to have been absent from the committee or meetings without a dispensation.

His skill in practice acquired for him great reputation, and his celebrity reaching the knowledge of the court, he was summoned thither, and made physician to Edward VI., and, after that king's death, he was appointed to the Queens Mary and Elizabeth, and remained in this elevation until the year 1568, when, it is said, he was dismissed, under a suspicion of being too much attached to the Popish religion. His religious principles have been questioned. He is supposed to have conformed in his latter years, at least in outward observances, to the Reformation, but that his inclination was to the principles of his early days.

Upon his retirement, he fixed himself at Cambridge, where he died, July 29, 1573; and having by his practice amassed a considerable estate, he left the same at his decease to build a new college to Gonvil Hall, and thus became the co-founder of Gonvil and Caius College, in the chapel of which he was buried; and a monument is there erected to his memory, with the laconic inscription, as directed by himself, of

“ Fui Caius—Vivit post funera virtus.
Obiit 1573, Æt. 63.”

His intentions towards his college did not spring up after his withdrawal from the court, for it appears that, having considerable influence with the Queen Mary, he obtained from her majesty a license to advance Gonvil Hall into a college, and that he then made arrangements for suitably endowing it, providing adequately for the maintenance of three fellows and twenty scholars. This was accomplished in the years 1557 and 1558. He framed a new body of laws for the government of the college, and was himself the master of it in 1559, and remained in that office until a short time previous to his decease. The erection of the new square of the college was called Caius Court in 1565, and finished in 1570, having cost in its completion the sum of £1834, a very considerable amount at that period, nearly the whole of which was defrayed by Caius. The character of Caius is somewhat developed by the arrangements made in this new building; they exhibit a quaintness in accordance with that shewn in his monumental inscription, and they also serve to depict the general feeling and taste of the

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age in which he lived. Thus, over one of the gates, which was small and low, is inscribed, "Humilitatis;" another, of finer and more noble structure, is called, "Virtutis;" and on the opposite side is written, "Jo. Caius posuit sapientiæ." The gate which leads to the public schools, through which all must pass to obtain their degrees, is styled, "Honoris." Thus did Caius found the most celebrated of the colleges of Cambridge for medical learning of the present day; and in this academic retreat did he spend the latter days of his life, far removed from the noise and intrigues of the court. A short time before his decease, he caused a new master to be appointed, but continued as a fellow-commoner, assisting daily at divine service in a private seat in the chapel built for himself.

The simplicity of the tastes and pursuits of Caius and Linacre have been already adverted to. They were both masters of the Greek language, with which there were but few at that time conversant, and they both translated from the works of that master of physic, Galen. The writings of this author translated by Caius will be seen at the close of this memoir. But Caius was also an original writer, and he always composed in the Latin language, with the exception of one early tract which he wrote in the English tongue, and the subject of which is of considerable interest and curiosity. It relates to the "Sweating Sickness," of which a few particulars may not be unacceptable to the reader.

The title of the tract to which allusion has been made is, "A Boke or Counsell against the Disease commonly called the Sweate or Sweatyng Sickness." It was printed by R. Grafton, at London, in 1552, in 8vo. The sweating sickness, Dr. Freind informs us, was originally a native of our own island. Dr. Mead did not admit its indigenous origin; but there are other authorities in its favour. Lord Bacon was of this opinion, and so also was Caius, who has given to us the best account of this singular malady. Its importance to Englishmen occasioned Caius to write upon it in the English language, which we may presume was considered *infra dignitate*, from an apology he thought it necessary to make in his tract upon the subject.

The disease began in 1483, in the army of Henry VII., upon his landing at Milford Haven, whence it spread to London, and there continued from September 21st to the end of October. It singularly returned in this country *five* times, and this always in the summer months, and in the years 1485, 1506, 1517, 1528, and 1551. In 1529 it was confined to the Netherlands and Germany, where its prevalence was so great and so fatal, as to occasion the breaking up of the conference at Marpurg, between the celebrated reformers Luther and Zwingle, on the subject of the Eucharist.

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In 1507, it was so severe, as to kill many in the space of three hours from the commencement of the attack. In 1528, it proved fatal to many in the course of six hours. Several of the English nobility became its victims, and Henry VIII. had well nigh succumbed to the pestilence. The last visitation of this disease carried off in Westminster alone one hundred and twenty in one day, and the two sons of Charles Brandon, both Dukes of Suffolk, died of it.

Caius was in practice at Shrewsbury at this time, when the disease was raging with great violence, and he has given the best description we possess of this epidemic. He compares it to the plague of Athens. He calls it a pestilent contagious fever of one natural day (*ephemera*); the sweat itself he reckons only as a symptom or crisis of this fever. The manner of its seizure was thus: first it affected some particular part, attended with inward heat and burning, unquenchable thirst, restlessneess, sickness at stomach and heat, (though seldom vomiting,) head-ache, delirium, then faintness, and excessive drowsiness, the pulse quick and vehement, and the breath short and labouring. Children, poor and old people, less subject to it. Of others, scarce any escaped the attack, and most died; in that town, where it lasted *seven* months, perished near a thousand. Even by travelling into France, or Flanders, they did not escape: and what is stranger, even the *Scotch* were free, and abroad the *English* only affected, and foreigners not affected in *England*. None recovered under twenty-four hours: at first the physicians were much puzzled how to treat it; the only cure was to carry on the sweat, which was necessary for a long time, for if stopped, it was dangerous or fatal. The way, therefore, was to be patient, and lie still, and not to take cold. If nature was not strong enough to do it, art should assist her in promoting the sweat by clothes, medicines, wines, &c. The violence of it was over in fifteen hours; but no security till twenty-four were passed. In some there was a necessity to repeat the sweating; in strong constitutions, *twelve* times. Great danger to remove out of bed; some who had not sweated enough, fell into very ill fevers. No flesh in all the time, nor drink for the *first five* hours, for in the *seventh*, the distemper increases; about the *ninth*, delirium: sleep to be avoided by all means. Caius is particular in the remedial part, to insist upon the *maintenance* of the perspiration and the *absence* of sleep. For the former he recommends a variety of means; as to the latter, he says, "do not let them on any account sleep, but pull them by the ears, nose, or hair, suffering them in no wise to sleep, until such time as they have no taste to sleep; except to a learned man in physic, the case appears to bear the contrary. If under this discipline they happily recover, and find their strength be

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sore wasted, let them smell to an old sweet apple, and use other restoratives of similar efficacy; for there is nothing more comfortable to the spirits, than good and sweet odours.”

The malignancy and fatal character of the disease, were of the severest description, and it is said to have immediately killed some “upon opening their windows; some in one hour, many in two, and at the longest to them that merrily dined, it gave a sorrowful supper.” Armstrong’s description of this disease, the combined effort of the physician and the poet, is most powerful and interesting.* It is of too great length for entire insertion here, but the following passages may not be considered obtrusive.

“ First through the shoulders, or whatever part
Was seiz’d the first, a fervid vapour sprung.
With rash combustion thence, the quivering spark
Shot to the heart, and kindled all within ;
And soon the surface caught the spreading fires.
Through all the yielding pores, the melted blood
Gush’d out in smoky sweats ; but nought assuag’d
The torrid heat within, nor aught reliev’d
The stomach’s anguish. With incessant toil,
Desperate of ease, impatient of their pain,
They toss’d from side to side. In vain the stream
Ran full and clear, they burnt and thirsted still.
The restless arteries with rapid blood
Beat strong and frequent. Thick and pantingly
The breath was fetch’d, and with huge lab’rings heav’d.
At last a heavy pain oppress’d the head,
A wild delirium came ; their weeping friends
Were strangers now, and this no home of theirs.
Harass’d with toil on toil, the sinking powers
Lay prostrate and o’erthrown ; a ponderous sleep
Wrapt all the senses up : they slept, and died.

“ In some a gentle horror crept at first
O’er all the limbs ; the sluices of the skin
Withheld their moisture, till by art provok’d
The sweats o’erflow’d ; but in a clammy tide :
Now free and copious, now restrain’d and slow ;
Of tinctures various, as the temperature
Had mix’d the blood ; and rank with fetid steams :
As if the pent-up humours by delay
Were grown more fell, more putrid, and malign.
Here lay their hopes, (though little hope remain’d,)

* Art of Preserving Health, book iii.

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With full effusion of perpetual sweats
To drive the venom out. And here the fates
Were kind, that long they linger'd not in pain.
For who surviv'd the sun's diurnal race,
Rose from the dreary gates of hell redeem'd :
Some the sixth hour oppress'd, and some the third.

“ Of many thousands, few untainted 'scap'd ;
Of those infected, fewer 'scap'd alive ;
Of those who liv'd, some felt a second blow ;
And whom the second spar'd, a third destroy'd.
Frantic with fear, they sought by flight to shun
The fierce contagion.”

The causes of this disease, like to most epidemics, are involved in obscurity. That it was nourished by the uncleanly habits and filthy abodes of the English in the sixteenth century, is certain. Caius attributes it to the “evil diet of the country, which destroyeth more meats and drinks, without all order, convenient time, reason, or necessity, than either Scotland, or all other countries under the sun, to the great annoyance of their own bodies and wits, hinderance of those which have need, and great dearth and scarcity in the commonwealth. Wherefore, if Æsculapius, the inventor of physic, the saver of man from death, and restorer to life, should return again to this world, he could not save those sorts of men;” and, he adds, “that those who had the disease, sore with peril or death, were either men of wealth, ease, and welfare, or of the poorer sort, such as were idle persons, good ale drinkers, and tavern haunters—the laborious and thin dieted escaped.”

The year following the publication of this tract, Caius put it into a Latin dress, and revised the whole, publishing it under the title of “*De Ephemera Britannicâ*.” In this edition he enters upon the consideration of many points not noticed in the original tract, and digresses largely upon the article of diet, giving directions for the making of different kinds of malt liquor.

The arbitrary distinction attempted to be made between medicine and surgery, prevailed at an early period, and the jealousy of the practitioners in each department has been often evinced. Caius was a zealous defender of what he considered the rights and privileges of the physicians; and in a difference arising between these and the surgeons, in the time of Elizabeth, as to the propriety or lawfulness of the latter to administer internal remedies for the sciatica, Caius appeared before the Lord Mayor and other Queen's delegates, in his character of President of the College of Physicians, where he contended so stoutly and so learnedly in favour of the members of his

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own body, that it was determined by the Queen's commissioners, to be unlawful for the surgeons to practise in such cases. The Bishop of London, the Master of the Rolls, and others, unsuccessfully advocated the cause of the surgeons on this occasion.

This conduct on the part of Caius, it is natural to suppose, created for him many enemies, and it has been suggested as likely to have been the cause of the selection by Shakspeare, of his Dr. Caius in "The Merry Wives of Windsor." But, our great bard most probably intended, by his character of the French doctor, to typify a class of pretenders too common in his and other days, rather than to throw ridicule upon the manners of a really learned and scientific physician.

His knowledge of Greek has been alluded to. His Latin has always been admired, and he wrote a treatise on the pronunciation of the Greek and Latin languages. Having travelled and studied abroad, Caius was in favour of the foreign mode of pronunciation of the Latin vowels, and of the manner of the modern Greeks as it respected their language.

His attachment to his Alma Mater led him into a silly controversy with one Thomas Key, a Fellow of All Souls College, Oxford, who, incited by a speech delivered by the public orator, and addressed to Queen Elizabeth upon her visit to Cambridge in 1564—in which the antiquity of Cambridge was particularly extolled—undertook to vindicate the priority of Oxford, which he asserted had been founded by some Greek philosophers, the companions of Brutus, and restored by Alfred about the year 870. Caius, at the instigation, it is said, of Archbishop Parker, entered the lists against the Oxonian, and contended for the foundation of Cambridge by one Cantaber, 394 years before Christ. But to turn from these antiquarian speculations, let us view him as a naturalist. That his researches should at the present day be entitled to translation and insertion, at their entire length, in the Zoology of Pennant, is sufficient evidence of their value. He enjoyed great intimacy with the celebrated Gesner, with whom he maintained a correspondence. Gesner speaks of him in his "*Icones Animalium*," as a man of consummate erudition, judgment, fidelity, and diligence, and in an epistle to Queen Elizabeth, he calls him the most learned man of his age. It is said, that, at the request of Gesner, Caius wrote his treatise on British dogs, (*De Canibus Britannicis*;) or which several editions have appeared. As the descriptions are to be found in Pennant, it is unnecessary here to enter upon them; they will amply repay the reader the trouble of their perusal.

Caius also published some other works on natural history, on some rare plants and animals, and on the hot-springs of England. From the

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particulars thus noticed, it will be seen that Caius's love of learning distinguished him throughout life. He erected a monument to the memory of Linaere in St. Paul's cathedral; thus marking his zeal and devotion to learning and science. It would seem, that prior to his death, he must have been in a state of extreme weakness, for under the article "Milk," in Dr. Moffet's curious book, entitled, "Health's Improvement, or Rules comprising the Nature, Method, and Manner of Preparing all sorts of Foods," &c., we find the following curious notice:* "What made Dr. Caius in his last sickness so peevish and so full of frets at Cambridge, when he suck'd one woman, whom I spare to name, froward of conditions and of bad diet; and contrariwise so quiet and well, when he suck'd another of contrary disposition? Verily the diversity of their milks and conditions, which being contrary one to the other, wrought also in him that sucked them contrary effects."

The following list comprises the works of this distinguished physician :

1. Hippocrates de Medicamentis—De Virtus Ratione. Caius was the first who found in MS. the Dissertation of Hippocrates De Medicamentis.
2. De Medendi Methodo, lib. ii. ex Cl. Galeni, Pergam. et J. B. Montani Sententia. Basil, 1544, 8vo.
3. Cl. Galeni Perg. Libri aliquot Græci, partim hactenus non visi, partim à mendis repurg. Annot. illustr. Basil, 1544, 8vo.; 1574, 4to.
4. A Boke, or Counsell against the Sweat, or Sweatyng Sicknes. Lond. R. Grafton, 1552, 12mo.
5. De Ephemera Britannica, lib. i. Lovan. 1556. Et. summâ curâ recog. Lond. 1721, 8vo. This is the best edition.
6. Opera aliquot et versiones, partim jam nata, partim recognita atque aucta. Lovan. 1556, 12mo. A wood-cut of Caius with a large beard is affixed to this work.
7. De Antiquitate Cantabrigiensis Academiæ, lib. ii. Adjunximus Aportionem Antiquitatis Oxoniensis Academiæ: ab Oxon. quodam. Lond. 1568, 12mo. 1574, 4to.
8. De Rariorum Animalium et Stirpium historia. Lond. 1570, 4to.
9. Institutionum Liber Posterior de Rebus. Lovan. 1570, 16mo.
10. De Canibus Britannicis, lib. i. De Rarior. Animal. &c. lib. i. De Libris Propriis, lib. i. Lond. 1570, 1574, 1576, 1699, 1721, 8vo. Lugd. 1728, 4to.
11. Of Englishe Dogges, the diversities, the names, the natures, and the properties. Translated by Abraham Fleming. Lond. 1576, 4to.
12. Commentarii in Cl. Galeni de Administrationibus Anatomicis: in C. de Motu Musculorum: in L. de Ossibus. Basil, 1574, 4to.
13. De Pronunciatione Græcæ et Latinæ Linguae. Lond. 1574, 4to
14. Opuscula, a S. Jebb. Lond. 1729, 8vo.
15. De Thermis Britannicis

* P. 210.



By J. H. Smith, Sculp.

Anthony Carlisle

SIR ANTHONY CARLISLE, F.R.S.

ETC., ETC., ETC.

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS.

SIR ANTHONY CARLISLE, the present President of the Royal College of Surgeons, is a native of the county of Durham. He is a descendant of an ancient noble family; Sir James Carlisle having married Margaret Bruce, whose successors obtained a peerage, with the barony of Tortthorald. He is the third of four sons, and was born in 1768. His professional education commenced with an uncle at York; upon whose death he was transferred to Mr. Green, founder of the hospital in the city of Durham. Having here acquired general information preparatory to the more particular study of his profession, he came to London, and attended the lectures at the Hunterian school, under Mr. Cruikshank and Dr. Baillie, where his diligence and ingenuity soon attracted the attention of the celebrated John Hunter, so that a proposition was made to Mr. Carlisle to conduct the dissections, and undertake the arrangement of his museum. This, however, was not accepted, and Mr. C. became a resident pupil of Mr. Henry Watson, at that time one of the Court of Examiners, and one of the Surgeons to the Westminster Hospital. Upon the decease of this gentleman in 1793, Mr. Carlisle became his successor at the hospital. Of this institution, the oldest of the kind in this country, supported entirely by voluntary contributions, he is now the senior surgeon; and the whole of his life, as the following narrative will shew, has been devoted to the performance of the duties connected with his profession. He for many years delivered regular courses of lectures on surgery, and he continues to give clinical lectures to the pupils of the Westminster Hospital. Upon the minds of the students he has always been anxious to impress the necessity of attending to the ordinary duties of their profession, and repressing the zeal which usually animates them in search of the severer operations of

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surgery. This practice is of little service to the pupil as an operator himself, and is detrimental to him as a general practitioner, as he must unavoidably neglect those cases, which, from their frequent occurrence, are of more importance in his avocations. He has urged, with no less force than propriety, the advantages arising from the skilful application of bandages, or the neatness and precision with which ordinary phlebotomy should be practised. Of these every by-stander is capable of forming an opinion; and not unfrequently the fame and fortune of a surgeon will be found materially to rest upon such circumstances. Sir A. Carlisle is the first to have introduced the important practice of public consultations upon the propriety of operating at the Westminster Hospital; a practice which has been found to be productive of very beneficial results, and to have been since adopted at various other similar establishments. He has ever professed his anxiety to advance his profession, and the interests of humanity. With the most laudable motive, he submitted, in 1829, a plan relative to the publication of hospital reports, to be collected together from all general medical hospitals, metropolitan and provincial, and addressed to the Royal College of Surgeons, and published by them half-yearly. The plan, however, was not supported by his colleagues in the council, and fell to the ground. The separate publication of the Reports of St. Thomas's and Guy's Hospitals, and the establishment of provincial journals, have, in some measure, though imperfectly, supplied the desideratum Sir Anthony pointed out.

The importance of comparative anatomy and physiology, in an inquiry into the structure and functions of the human system, no one of the present day will for a moment question, yet few are to be found who have sufficient leisure to devote from the more active pursuits of the profession, to obtain that particular knowledge which is essential to the elucidation of general views connected with medical science. Sir Anthony is one of the earliest labourers in this field in this country; and he appears to have been animated by the spirit of Hunter, and to have recognized with ardour the glorious career of that most distinguished naturalist and physiologist. The papers he has published in the Transactions of the Royal, (of which he became a Fellow in 1800,) Linnæan, and Horticultural Societies, afford evidence of the truth of this remark. In the Philosophical Transactions some communications of importance have appeared: the first is entitled, "An Account of a Peculiar Arrangement in the Arteries distributed on the Muscles of slow-moving Animals."*

* Phil. Trans. 1800 and 1804.

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In the year 1799, John Symmons, Esq., F.R.S., presented to Mr. Carlisle a maucauco for dissection. It was the species known to naturalists as the *Lemur tardigradus*, remarkable for the slowness of its movements. Its blood-vessels being injected, a very extraordinary distribution of the arteries was observed, differing very materially from the ordinary course in animals generally. The deviation was observable in the axillary and iliac arteries; the main trunks supplying the extremities. At their entrance into these parts of the animal, the trunk of the vessel did not branch out in an arborescent form, but immediately divided into a number of equal-sized cylinders, which occasionally anastomosed with each other. They were all directed to the muscles or moving organs; and our anatomist counted twenty-three of these cylinders in the fore, and seventeen in the hinder limb. This discovery was so remarkable, that Mr. C. was almost disposed to consider it as an accidental variety, and therefore did not attempt any physiological explanation of such a condition, until he should have had opportunities of observing the structure of the arteries in some other animals of similar habits. The *Bradypus tridactylus*, or great American sloth, was found to have a like distribution; and the communications between the cylinders in this animal were found to exceed in number those of the *Lemur tardigradus*. No less than forty-two separate cylinders were counted upon the superficies of the brachial fasciculus; and these did not constitute the whole of the number which existed there. The arteries of the lower limbs were less divided, and of larger diameter; thirty-four branches only were detected in the middle of the thigh. The *Bradypus didactylus* is a quicker-moving animal than the *tridactylus*, and the arteries were found to be less divided. The effect of such an arrangement of the arteries must be to retard the velocity of the circulating fluid: and this is, in the animals mentioned, in relation to the muscles of their limbs. Mr. Carlisle was not clear as to whether the slow movement of the blood sent to these muscles was a subordinate convenience to other primary causes of their slow contraction, or whether it formed of itself the immediate and principal cause. The relation of the vascular system to the operation of muscular contraction is not yet sufficiently ascertained. It is, however, obvious, as Mr. C. at once saw, that the effect of this peculiar distribution was to enable the animal to cling to the boughs of trees, &c. for a great length of time; to accommodate itself, in short, to the habits of life of the animal, which give occasion for the long-continued contraction of some of the muscles of their limbs, for these animals have been known to cling to trees for several hours without changing in any way their position. The author of this anatomical discovery has not lost sight of something analogous

remarked in the carotid artery of the lion, known by the name of the *rete mirabile*, and described by Galen; and by which it is presumed the animal is enabled firmly to hold his prey for a great length of time without fatiguing the muscles of his jaws, to which these blood-vessels are transmitted. Examination of the arteries supplying the muscles of the jaws of the ruminating and the carnivorous animals, proved them to be arborescent, and did not therefore maintain the conjecture which had been carefully thrown out. The *rete mirabile*, and the circuitous course of the vessels going to the brain, appeared to check the velocity of the blood going to that organ. Many slow-moving muscles are found to be furnished with long cylindrical arteries; and in the heart, whose muscular motions are of exceeding rapidity, they are more quickly subdivided than those of any other part of the body. A greater collection of facts is necessary before the subject can be considered as satisfactorily accounted for.

Sir A. Carlisle has given an account of "A Monstrous Lamb."* The peculiarity relates to the formation of the head, and the absence of cerebrum.

In 1804 he wrote the "Croonian Lecture on Muscular Motion."†

The papers above noticed have shewn how the author's attention had been directed to the connexion between the conditions of the vascular and muscular systems; and this lecture is directed to a consideration of this subject, as well as the dependence on the respiratory and nervous systems. The changes which take place during the contraction or relaxation of muscles, are exceedingly difficult of solution. Many physiologists have endeavoured to account for them in various ways, but hitherto the subject may be regarded as an unsettled one in physiological science. It is, therefore, highly important to collect facts, and to institute well-arranged experiments; and Sir A. Carlisle has at least the merit of having aided in the research. His experiments to shew the properties of the irritable muscular fibre, and on the cohesive attraction of muscles, are very interesting. In a second Croonian Lecture, the arrangement and mechanical action of the muscles of fishes were particularly considered.‡

Physiology of the Stapes.§ This is an attempt to illustrate some circumstances connected with the organ of hearing, from an examination of one of the bones of the ear, in man and various animals. In man it is exceedingly minute, measuring only, according to Sir A., $\frac{6}{40}$ of an inch in height, and $\frac{5}{40}$ in breadth at the basis, and weighing only $\frac{1}{32}$ of a grain. In this paper, Sir Anthony displays the discovery of an osseous bolt, which

* Phil. Trans. 1801. † Ibid. 1804. ‡ Ibid. 1806. § Ibid. 1805.

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he calls pessulus, passing between the arch of the stapes in several animals, viz. the guinea-pig, the mole, &c.

“Account of a family having hands and feet with supernumerary fingers and toes.”* No subject is more difficult of solution than the hereditary transmission of peculiarities from parents to their offspring. All the processes connected with the generative functions are enveloped in much obscurity; and it is important to collect and accurately record all the variety of phenomena observable in the reproduction of the species. The supernumerary fingers and toes, in the case narrated by Sir Anthony Carlisle, had been traced to occur even to the fourth generation; and what is rather remarkable, both the male and female branches of the original parent were capable of transmitting the peculiarity.

In the Linnæan Transactions † are, “Observations on the Structure and Economy of those Intestinal Worms called *Teniae*,” in which an ingenious attempt is made to explain the mechanism and physiology of those curious animals. Their food the author presumes to be the chyle, and their structure, therefore, peculiarly simple, inasmuch as no complication of digestive apparatus is necessary for assimilating nourishment already prepared for them.

In the Horticultural Transactions, Sir Anthony Carlisle has printed some “Preliminary Observations to the second volume of the Transactions;”‡ also an “Account of a Walnut Tree which bore fruit at an early period from seed;”§ and “On the connexion between the leaves and fruit of Vegetables.”||

The earliest production of Sir A. Carlisle’s pen appears to be the relation of a “Case of unusual formation in a part of the brain.”¶ The falci-form process of the dura mater was deficient, a very uncommon, if not unique occurrence. The brain was not divided into hemispheres as usual, but completely formed of one substance. No peculiar condition or character of intellectual power was observable in this case during life; the functions of the organ appear to have been exercised as in the ordinary conformation of that most important part of the human frame.

In the Medical and Physical Journal are seven papers:—“1. A new method of applying the tourniquet to restrain arterial hæmorrhages from the lower extremities.”** 2. “Account of the use of an instrument for

* Ibid. 1814.

† Vol. ii.

‡ For the year 1814.

§ Ibid.

|| Hort. Trans. 1816.

¶ Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Vol. i.

** Vol. i. p. 23.

cutting the cornea in the operation of extracting a cataract;”* this is of Parisian invention; it is open to objection, and less preferable than the mode now adopted by all expert operators. 3. “Description of the use of the Bistoir Caché for Lithotomy.”† The improvements in modern surgery, and the able employment of the knife by most operators, have superseded the use of this instrument in one of the most important of surgical operations. 4. “On the indiscriminate use of bougies armed with caustic.”‡ 5. “Observations on Simple Fractures, where the union fails.”§ The deficiency of ossific union is imputed by the author to a sluggish and inactive condition of the vascular system; and he suggests the necessity of watching the progress of inflammatory symptoms, and moderating them only when actually present, rather than anticipating their appearance; and after the thirtieth day to commence with a generous regimen. 6. “On the Radical Cure of Bubonocele.”|| 7. “Case of Strangulated Umbilical Hernia.”¶

In the 7th volume of “Medical Facts and Observations,” Sir A. Carlisle printed some “Observations on the nature of Corns, and the means of removing them.” A large proportion of the misery we endure, as well as the happiness we enjoy in this world, is occasioned by trifles; and this observation is strikingly illustrated by the subject of this paper. Continued pressure calls forth the protecting power of nature; and thus by the formation of successive layers of cuticle, a corn is produced. The degree of pressure occasioned by this thickening, however, disturbs the formation of the true skin beneath, sinks below its proper level, forms a cone which presses upon the sensible parts, and occasions considerable pain and inconvenience. Sir Anthony recommends dissolving the corn by warm applications, followed by the caustic alkali. He recommends blistering where the corns are soft, that is, when they occur at a perspiring surface.

In the *New Medical and Physical Journal*,** Sir A. has given a “Description of the Symptoms and Treatment following the Bite of a Viper.” In the *London Medical Repository* are six papers. Four of these comprise “Observations on the Properties and Uses of Cathartics;”†† and embrace a practical and theoretical statement of the different kinds of cathartic medicines, probably the most important remedial agents in the whole *Materia Medica*, possessing various powers, and adapted to very different circumstances, though too frequently administered without due regard to their qualities, or discrimination as to their effects. The fifth paper‡‡ consists of “Remarks on the present unsettled state of opinion about the

* *Ib.* p. 332.† *Vol.* iii. p. 193.‡ *Vol.* iii. p. 289.§ *Vol.* vi. p. 201.|| *Vol.* ix. p. 396.¶ *Vol.* xii. p. 337.** *Vol.* i. p. 89.†† *Vol.* i. pp. 97, 185, 277, 453.‡‡ *Vol.* vii.

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Venereal Disease." After noticing a variety of appearances of a doubtful nature, as characteristic of the disease, and shewing its manifestation under different forms, the author very justly enters his protest against the modern subdivisions of surgery for the pretended special treatment of particular disorders. It is a "quackish delusion," foreseen by the great Lord Bacon, who says, "And in particular sciences, we see, that if men fall to subdivide their labours, as to be an oculist in physick, or to be perfect in some one title of the law, or the like, they may prove ready and subtle, but not deep or sufficient, no, not in that subject which they do particularly attend, because of that consent which it hath with the rest." The other paper consists of "Facts and Observations relative to the connexion between Vascular and Extra-Vascular Parts, in the structure of living organized bodies.* In this memoir the author purposely avoids going into any metaphysical disquisition as to the mystery of vitality, confessing himself wholly incompetent to reduce that power within the rules of physical science. He is satisfied with attempting to benefit physiology, by establishing accurate discriminations between the several substances of living bodies, especially as to the relative dominion of vitality or of physical causes on those substances respectively.

A series of preparations illustrative of the union between vital and extra-vital parts, as exhibited in the testaceous tribe of animals, has been deposited by the author in the Hunterian Museum, and will amply repay the student and the naturalist for any trouble in their investigation. By extra-vital, Sir A. C. means those parts of organic bodies which have no power of self-repair, which hold no continuity with the circulating fluid material destined to replenish the waste, to augment the bulk, or repair the accidents of the living fabric.

In the London Medical Gazette for March 8, 1828, there is a paper on Erysipelas. Sir A. looks upon this disease as "a humoral and constitutional inflammation, occasioned by alimentary crudities, because certain vegetable acids and acidifiable viands are often the notorious antecedents of the disease." This paper presents the results of a long and extensive practice, and contains some very judicious remarks on the subject of diet.

In Nicholson's Journal there is a paper on "Galvanic Electricity, and its Chemical Agencies."† This was published in July, 1800. Sir A. C. had obtained from Sir Joseph Banks a perusal of a part of Signor Volta's paper, describing the formation of what is now well known as the Voltaic Pile, and, with Mr. Nicholson, he proceeded to make some experiments with an instrument composed according to the direction of the Italian pro-

* Vol. iv. pp. 89, 166.

† Vol. iv. p. 179. 4to. edit.

fessor. The pile was placed upon the gold-leaf metrometer, but no signs of electricity appeared. The action of the instrument was observed to be freely transmitted through the usual conductors of electricity, but stopped by glass and non-conductors. Very early in this course, the contacts being made sure by placing a drop of water on the upper plate, (Mr. N. remarks,) that Mr. C. observed a disengagement of gas round the touching-wire. This appeared to Mr. N. to have the smell of hydrogen whenever the wire of communication was of steel. The experiment was varied, and the circuit was broken by the substitution of a tube of water between two wires. A compound discharge being applied, so that the external ends of its wire were in contact with the two extreme plates of a pile of thirty-six half-crowns, with the correspondent pieces of zinc and pasteboard, a fine stream of minute bubbles immediately began to flow from the point of the lower wire in the tube which communicated with the silver, and the opposite point of the upper wire became tarnished, first deep orange, and then black. Experiments of this nature having continued, two-thirtieths of a cubic inch of gas was obtained, and this being mixed with an equal quantity of air, it was exploded by the application of a lighted waxed thread. Other instances of the decomposition of water are given in this paper, to which the reader is referred for much curious and interesting information. Here it is proved, that Sir A. C. was not only the first to observe the chemical effects of galvanism, but also to indicate the future applications of that agent.

“On the Discoloration of Silver by Birds’ Eggs.”* The sulphuretted hydrogen gas, to which this effect is attributable, Sir A. found could not be formed by the albumen of eggs without the addition of water.

The Philosophical Magazine contains papers “On the Breeding of Eels,”† and “A Tabular View of the State of Health of the Workmen employed by the Commissioners of Sewers in Westminster.”‡ From this statement, the men generally do not appear to have suffered from their occupation beyond the casual occurrence of accidents.

To the newspapers of the day, Sir Anthony has made several communications of interest. These are principally addressed to the Times, and embrace the subjects of the Salt Duties—the Importance of Salt to the Health of Human Beings—Military Flogging—Hygæian Quackery, &c. The following deserves to be particularly attended to: “A Letter to Lord Robert Seymour, on the Establishment of a County Pauper Lunatic Asylum.” The suggestions contained in this paper, unfortunately, have not been adopted. Until insanity is looked upon and treated as fever, or any other disease, it is

* Ibid. vol. v. p. 178.

† Vol. lix. Feb. 1822

‡ Ibid. 1832.

likely we shall remain ignorant of the proper modes of treatment. Sir A. proposed that the asylum should be open, like other public hospitals, for the instruction of pupils, and the public communication of the methods of practice adopted. Every physician, surgeon, or apothecary possesses the power, by their signature, of consigning a fellow-creature to the confinement of a mad-house, yet there are no public institutions in which instruction relative to insanity is to be obtained. No one will question the importance of this subject, and no one will deny the difficulty attendant upon determining the physical as well as moral treatment necessary to be pursued in cases of mental derangement.

In the *Archæologia* are two papers; one, "A Description of Five Maces discovered on the capture of the Fort at Agra;" the other, "An Account of some Coins found in certain Tumuli in the Southern District of the Peninsula of India,"† in which paper Sir A. C. points out the methods used for raising huge stones, such as those at Stonehenge.

Sir Anthony Carlisle has made several communications to the publications of various authors. The subject of Hydrophobia has engaged his attention, and in Mr. Gillman's essay on this subject will be found a case of this horrid disease, which occurred in a little girl three and a half years old. It is exceedingly well related, and presents a case of canine madness completely uninfluenced by moral causes. In the same work is a relation of the symptoms observed in a rabid dog. In an oration delivered before the Medico-Botanical Society, are some judicious observations on the importance of attending to medical botany, and in "Enquiries into the effects of fermented liquors," some remarks on diet and regimen observed in training pugilists, or persons for athletic games, &c. Sir Anthony Carlisle has also made many valuable contributions to the illustrated catalogue of the Hunterian Museum, particularly on the subject of the comparative anatomy of the organ of Hearing. The plates were engraved at the Author's expense, and are admirably adapted to their object. They were originally intended to accompany an essay on sound, and on the organs of hearing generally, which formed part of a course of lectures delivered by Sir Anthony Carlisle, when Professor of Anatomy and Surgery to the Royal College of Surgeons, in 1818. An abstract of this essay is affixed to the illustrated catalogue, and our Author's views on the subject of sound in reference to the Stethoscope may be seen in Dr. Wolff's "Treatise on the use of Auscultation," lately published.—It remains to notice the works separately published by Sir Anthony Carlisle. These consist of:—

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1. An Essay on the Disorders of Old Age, and on the Means of Prolonging Human Life." The first edition appeared in quarto, in 1817, the second in octavo, in 1818. This Essay is principally addressed to the Aged, and is chiefly intended to point out the diet most proper to the advanced period of life, as want of attention in this respect frequently abridges the duration of existence. The author inclines to the opinion, that the disorders of senility may often be relieved, and human life prolonged beyond the ordinary time, by judicious management. This is comprised in the regulation of diet, clothing, exercise, and air, rather than by the employment of drugs or pharmaceutical preparations. The commencement of old age, Sir Anthony Carlisle fixes at sixty. At this period he thinks some symptoms of disorder usually manifest themselves. These are chiefly connected with the function of digestion; hence the importance of dietetic precepts. For these, and the several modes of treatment adapted to the various disorders incidental to age, the reader is referred to the "Essay," which concludes with some observations upon a subject of great importance:—"The Moral Propriety of Surgical Operations upon Old Persons." This is a question in medical ethics deserving of the serious attention of every practitioner. Sir Anthony Carlisle justly remarks, that dangerous operations are rarely advisable in advanced age, because the living powers are then diminished, and old persons are seldom exempt from constitutional disorders.

2. In 1829, Sir Anthony Carlisle submitted a Paper to one of the Evening Meetings of the Royal College of Physicians, being an account of an "Alleged discovery of the use of the Spleen, and of the Thyroid Gland." The physiology of these organs has engaged the attention of all anatomists, and still remains in obscurity. Our author's object was to demonstrate the connexions, and the physical effects produced by these organs upon more important contiguous parts, and thus to offer an explanation of their respective offices. The quantity of blood sent to the spleen has always been remarked, and some peculiar secretion has been sought for, to explain its use; but no excretory duct has been found. Sir Charles Bell has well said, that "The spleen is privileged ground for speculation," and a history of the various opinions that have been entertained, would be more amusing than useful. The spleen has been compared to a sand-bath, fitted to foment the stomach, and promote the digestion. It has been regarded as the organ to secrete an acid juice, and so excite an appetite—it has been looked upon as the seat of the soul!—the cause of venereal desire—the receptacle of a ferment—the seat of luxury—the abode of joy, or indolence, or sleep, the seat of melancholy,

"that moping here doth Hypochondria sit,"

or, "Laughter holding both his sides."

And Sir Charles Bell tells us we have authority for the excision of the spleen from those who are otherwise incurable in their propensity to laughter. Hewson imagined that the spleen added the flat vesicle of the globules of the blood; and another opinion has been, that it counterbalanced the mass of the liver seated to the right side of the abdomen. It has been considered as preparing the blood for the secretion of the bile; but Doctor Saunders made some experiments which appear to shew that the bile in animals from whom the spleen has been removed, is not different from those in whom it remained; and that the liver, in the exercise of its function, is perfectly independent of that viscus. Dr. Haighton's experiments confirm these views. Some physiologists have modestly asserted that the spleen was of no use at all, and they have founded their opinion upon the absence of any ill effects following its extirpation in animals. It has been removed from man himself. At the battle of Dettingen a soldier had his side pierced by a bayonet; he lay during the night on the ground, and when discovered by the surgeon in the morning, the spleen was found hanging out of the abdomen. It was so much enlarged, that the surgeon thought proper not to return it, but removed it, and no inconvenience was afterwards experienced in the animal functions. The majority of physiologists favour the opinion of its being an organ subservient to the stomach. Sir C. Bell looks upon it as a provision for giving the vessels of the stomach an occasional power and greater activity, enabling them to pour out a quantity of fluid proportioned to the necessity of the digestion. Dr. Rush regarded the spleen as an organ of defence against the effects of sudden accident upon the important viscera of the abdomen. Sir A. Carlisle's opinions accord most with those of Dr. Stukeley as to the physiological influence of the organ; but they differ as to the parts upon which that influence is bestowed, and the effects produced. The temperature of animal bodies is regulated by the proportion of red blood circulating through them. An unequal dispensation of animal heat, Sir A. remarks, exposes many parts to a passive reduction of temperature; the effects of which are, a diminution of sensibility, and an abatement of muscular power. By the introduction of cold drinks and food, the stomach appears to be peculiarly subjected to change of temperature; and our author views the spleen as the organ for compensating heat, and the natural provision against the torporizing influence of low temperature suddenly applied to the nervous and muscular structures of the stomach. He has pointed out the constant alliance between temperature and the sensorial functions and muscular motions, and called to his aid many ingenious illustrations derived from his extended knowledge of comparative anatomy. The thyroid gland

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is similar in its structure to the spleen; and its office he regards as of a similar character. He considers that "the local adaptations of the thyroid gland to the trachea and larynx, must necessarily furnish heat to the nerves and muscles of the organ of voice, whose bloodless cartilages are exposed, both within and without, to the effects of atmospheric changes."

3. In 1826, Sir A. Carlisle addressed a "Letter to Sir Gilbert Blane on the employment of Blisters, Rubifacients, and Escharotics," and recommended an instrument called "the Blisterer," adapted to transmit a defined degree of heat to effect these several purposes.

Sir A. Carlisle has delivered two "Hunterian Orations;" the first in 1820, the second in 1826. The former is dedicated to George IV., to whom Sir Anthony was Surgeon Extraordinary. In this he sagaciously predicts that which is now being rapidly fulfilled, and will be best expressed in his own words:—"The constitution of organized bodies is yet imperfectly understood; but, if we patiently wait until the inward history of living creatures is more extensively shown, and until chymistry has developed the essentials of their composition, we or our followers must be rewarded by more satisfactory views:" and in allusion to the Hunterian museum, to which so many additions have been since made, he remarks, "It may be the destiny of this college to execute the glorious scheme of Aristotle; to draw together the creatures of the earth; to unravel their natures, and to display with perspicuity their several applications for the services of all sensitive beings." Few members of the College are better, if so well adapted to display the importance of a knowledge of natural history in connexion with anatomical and physiological science. Sir Anthony from his earliest days has been a devoted enthusiast in the examination of the treasures of nature in all her kingdoms, and an active seeker into the mystery of her operations. He is, therefore, well calculated to do justice to the merits and views of John Hunter. His knowledge of the complex phenomena of living bodies, and the difficulty of tracing the causes which regulate them, led him to insist upon the necessity of making examination into the diversity of textures observable throughout the animal kingdom, and carefully distinguishing the supposed connecting links by which they are severally bound together. "In some animals (he observes) the parts ordained to perform definite offices, are simple, distinct, and homogeneous; in others, they occur intermixed with adventitious, auxiliary, or subordinate structures; so that nothing short of a copious and particular knowledge of these facts can warrant any physiological theory. The whole of these contemplations invariably lead to conclusive proofs of the strict adaptation between animal structures and their functions; and while the

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wisdom of this moral governance, and the supreme order of Providence command our adoration, we may be permitted to advance our researches and cogitations respecting those natural events, which comprehend the most important information for the improvement of surgery." The second Hunterian oration relates to the connexion between vascular and extra-vascular parts.

From the preceding statement, it will be evident that Sir A. C. has for many years been ardently and usefully engaged in professional researches. He has for many years been one of the Council of the Royal College of Surgeons, one of the Board of Examiners, and one of the Curators of the Hunterian Museum. He has been one of its Professors of Anatomy and Surgery, and in 1829 he filled the office of President. He occupies the same distinguished position at the present time. He has for many years been one of the Surgeons of the Westminster Hospital, and was Surgeon Extraordinary to his late Majesty George IV., from whom he received the honour of knighthood at the first levee of that monarch, he being recommended for that honour by the privy council, on the ground of his professional merits. He was also appointed surgeon to the late Duke of Gloucester, at a personal interview, to which he was introduced by the learned Dr. Samuel Parr.

He has enjoyed an extensive practice, and his experience has enabled him to make many improvements: one, not the least in importance, has been in the alteration of some of the instruments used in surgical operations, and it should be known, that to Sir Anthony's ingenuity and application we are indebted for the introduction of the present excellent amputating instruments. He first substituted the thin-bladed, straight-edged amputating knife, approaching, in its kind, to the ordinary carving knife, for the clumsy crooked knife of former days; and also was the first to employ the carpenter's saw, simple in its construction compared with that formerly employed. He was the first to use the Bistourie Caché in this country, and he has, by the aid of Mr. Stodart, introduced various improvements in surgical apparatus. The ingenuity of Sir Anthony in early days enabled him to accomplish what Mr. Hunter considered to be a desideratum in anatomical research. He succeeded in making the first perfect cast of the labyrinth of the ear, and had the gratification of presenting the model to that celebrated man, who was highly delighted with the acquisition.

But Sir Anthony's labours have not been confined to the application of anatomical science to the relief of the diseases and disorders of mankind: he has considered it in relation to the arts of design, and the display of taste by painters and sculptors. In 1808, upon the death of Mr. Sheldon, Sir Anthony succeeded him as Professor of Anatomy to the Royal Academy.

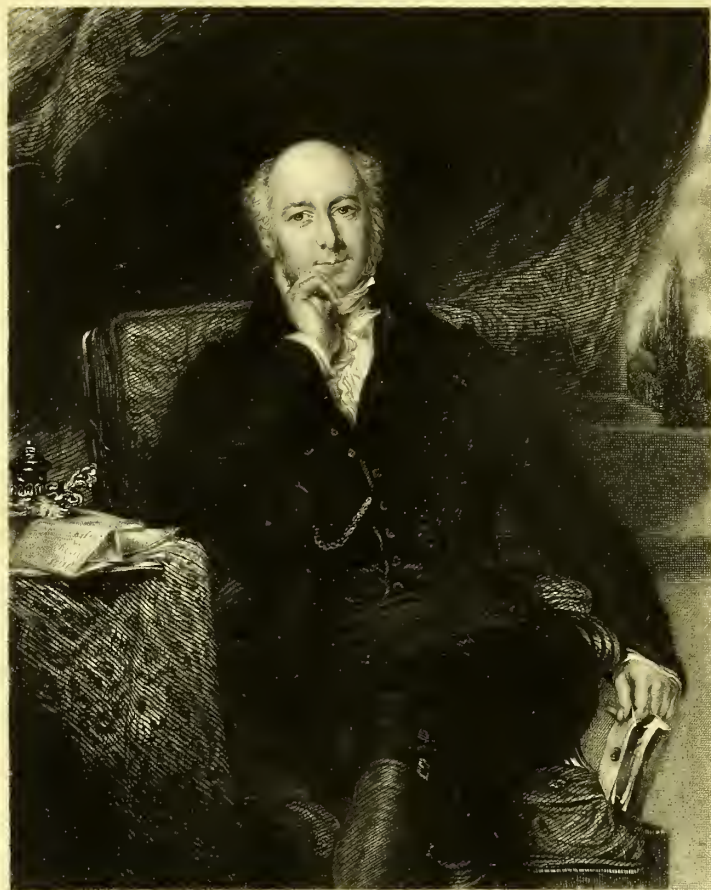
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The first professor was Dr. William Hunter, who was succeeded by Mr. Sheldon. Sir Anthony was, therefore, the third anatomical professor of this institution. He held the appointment for sixteen years, varying the courses every year, but devoting the first two lectures to an especial exposition of the connexion between anatomy and the fine arts, embracing a philosophical view of the passing state of anatomical knowledge. Upon his retirement he carried with him the good wishes and sincere thanks of all the members of the Academy, who, to testify the sense they entertained of his distinguished services, presented to him a handsome salver, with the following inscription : viz. " Presented to Sir Anthony Carlisle, Kt. with the unanimous thanks of the President and Members of the Royal Academy of Arts, for the zeal, attention, and ability with which, during sixteen years, he fulfilled the duties of Professor of Anatomy to that institution, and as a Testimony of their respect and esteem. London, 1825."

Sir Anthony had been admitted a student at the Royal Academy upon the recommendation of Sir Joshua Reynolds, given in consequence of a conversation which took place at the celebrated painter's one evening, between Sir Joshua, Mr. Hunter, Mr. Burke, and Mr. Carlisle. By this, he became the fellow-student of Hoppner, Westall, and other justly celebrated artists. In the periodical called "The Artist," Sir Anthony printed an "Essay on the Connexion between Anatomy and the Fine Arts," the object of which is to show that minute details of human structure are not necessary in historical painting and sculpture. The dissection of human bodies was not permitted at the period when the Greek schools enjoyed their greatest popularity, and had reached their highest excellence. When the fine arts flourished most, anatomy was not cultivated by artists as a particular object of study. Sir Anthony regards anatomy as principally useful to the artist by fixing his attention upon the most difficult of all the forms in nature—those of the human body. "Anatomy (he says) is subservient to precision and truth in design; it may secretly give correctness to drawing, but, if urged further, it will create disgust."

It is to be regretted that neither the lectures delivered at the Royal Academy or the Royal College of Surgeons, have been published. To the merits of the latter, many have borne their testimony, particularly his learned and eloquent colleague, William Lawrence, Esq., in his lectures on Physiology, Zoology, and the Natural History of Man, (pp. 40—678.)

The Portrait prefixed to this Memoir was painted by Sir M. A. Shee, P.R.A., at the time Sir Anthony was Professor of Anatomy at the Royal Academy.



Ch Clark

SIR CHARLES MANSFIELD CLARKE, BART.

M.D. F.R.S. ETC. ETC. ETC.

“ Rite maturos aperire partus.”—HORAT.

WHATEVER relates to the condition, safety, or happiness of that sex so beautifully described by the immortal poet as,

“ last and best
Of all God's works, creature in whom excell'd
Whatever can to sight or thought be form'd
Holy, divine, good, amiable, or sweet !”

and upon whom our greatest happiness may justly be said to depend, must merit the deepest attention and regard. The study of midwifery claims for its assistance the sciences of anatomy, physiology, surgery, and medicine, inasmuch as they relate to the formation and growth of the fœtus, the changes which the several organs undergo during the process of gestation, and the various diseases incidental to the gravid state and to the earliest days of the infant. It is a branch of the most intense interest—involving, as it does, the safety of the fairest and most amiable part of creation. It was a study deemed by the ancients not unworthy of their regard. Hippocrates wrote several treatises on this subject :—*De Morbis Mulierum* ; *De Superfætatione* ; *De Virginibus* ; &c. Aristotle, Galen, Ætius, Albucasis Avicenna, and others, have followed this illustrious example. The first physiological work, however, of real value, relating to the origin and growth of the human fœtus, is to be found in the writings of the celebrated Dr. Harvey. That men of high and exalted attainments—such as possessed by those already named, and others of minor character, that might easily be enumerated—should have bent their thoughts to the subject of midwifery, cannot be a matter of surprise—seeing, as we do, that, in all ages, nature, however powerful in general, has not always been able to support and maintain her own laws ; and that, but for the interposition and assistance of the medical practitioner, many individuals must have been lost to society. It has been well said, that no science leads us so immediately to a survey of our own origin as this ; that it presents to our view the rudiments of the

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fœtus, and shows how they gradually unfold themselves, in magnitude and figure, from conception to the time of birth ; illustrating what Garth so well expressed in those memorable lines in "The Dispensary :"—

" How the dim speck of entity began
T'extend its recent form, and stretch to man.
To how minute an origin we owe
Young Ammon, Cæsar, and the great Nassau."

The French have excelled the English in the advancement of obstetric knowledge ; and the labours of Paré, Guillemeau, Mauriceau, Deventer, and others, have justly become distinguished. They had lying-in hospitals established at a much earlier period than in England ; and to the advantages of instruction offered by these institutions, must be attributed much of the perfection of the science of midwifery at the present day. Dr. John Moubray, the author of "The Female Physician, or the Whole Art of New Improved Midwifery," and "Midwifery brought to Perfection," was the first public teacher of midwifery in Britain, and delivered his lectures at his house in Bond Street ; and Sir Richard Manningham, in 1739, established a ward or small hospital, attached to the Parochial Infirmary of St. James's, Westminster, for the exclusive reception of lying-in women ; and this offers the first public hospital for obstetric cases in England.

It may not be unacceptable to the reader to have, in this place, some account of the earliest known work, in the English language, upon midwifery ; the original manuscript of which, presented by the translator (for it is a foreign work) to Katherine, queen of Henry VIII., is in the possession of the writer of this Memoir. It is entitled, "The Byrth of Mankynde newlye translated oute of Laten into Englysshe. In the whiche is entreated of all suche thynges the whiche chaunce to women in their labor, and all suche infirmities whiche happen unto the Infantes after they be delyvered. And also at the latter ende or in the thyrde or laste booke is entreated of the conception of mankynde, and howe manye wayes it maye be letted or furtheryd, with diverse other frutefull thynges, as dothe appere in the table before the booke." Following this title is, "An Admonicion to the Reader: For so muche as we have enterprysed the interpretation of this present booke, offerynge and dedycatyng it unto our mooste gracious and vertuous Quene Katherin onely ; by it myndyng and tenderynge the utilite and wealthe of all women, as touchyng the greate parell and dangours, whiche mooste comonlye oppresseth them in their paynfull labours. I requyre all suche men in the name of God whiche at any tyme shall chaunce to have this booke, that they use it godlye and onely to the profight of their neighbours,

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utterly enschuynge all rebawde and unsemelye communicacion of any thynges contayned in the same, as they wyll answere before God; whiche as witnessyth Christ wyll requyre a counte of all ydell wordes, and muche more then of all rebawde and uncharitable wordes. Every thyng as saith Solomon hathe his tyme, and truelye that is farre out of tyme, yea and farre from all good honestie, that some use at the commune tables, and without any difference before all companyes rudelye and leudelye to talke of suche thynges, in the whiche they ought rather to knowe muche and to saye littel, but onelye wher it maye do goode, magnifyeing the myghtye God of nature in all his workes, cōpassionatyng and pytyng our even Christians the women whiche sustayne and endure for the tyme so greate dolor and payne for the byrthe of mankynde and delyveraunce of the same in to the worlde.

PRAYSE GOD IN ALL HIS WORKES."

After this "Admonicion" is the Dedication:—"Unto the most gracious and in all goodnesse most excellent vertuous Lady Quene Katheryne wyfe and most derely belovyd spouse unto the most myghty sapient Christen prynce Kynge Henry the Eighte RYCHARD JONAS wyssheth ppetuall joye and felycyte;" in which the translator speaks of his original as being "a boke entitled *De Partu Hominis*, that is to saye, of the byrth of mankynde compyled by a famous doctor in Physyke, called EUCARIUS, the whiche he wrote in his owne mother tunge, that is, beyng a Germaine, in the Germaine speche, afterwarde by an other clarke, at the requeste and desyre of his frende transposed into Laten, the whiche boke for the singular utilite and profete that ensueth unto all suche as rede it, and mooste specially unto all women (for whose onely cause it was written) hathe ben sythe in the Doutche and Frenche Speche sett forthe and emprynted in greate nōber, so that ther be fewe matrones and women in that partes but (if they can rede) wyll have this boke alwayes in readynesse," &c. The work is arranged in three books, which are subdivided into chapters, and treats of various things relating to the formation, development, and bringing forth of the child, and of the diseases incidental both to the mother and child. The first book contains sixteen figures, representing the child in various positions, far more fanciful than true. The date of this MS. must be about the year 1540. A copy of the original work in German, by EUCARIUS RÖSSLIN (little Rose), is in the possession of J. B. Inglis, Esq. No copy of the Latin edition, described as by EUCARIUS RHODION, is to be met with in any of our public libraries. Dr. Denman, in the preface to his "Introduction to the Practice of Midwifery," notices the English work only, and states its publication to have been in 1540, and to have been executed by "THOMAS RAYNOLD PHYSITION." The greater number of copies have the name of

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this physician attached to them; and there are very numerous editions. That by RICHARD JONAS is exceedingly scarce, and it differs from that which bears the name of RAYNOLDE. It is the first medical work which has prints reasonably-well executed from neat drawings.

EUCHARIUS RÖSSLIN, or RHODION, as he græcised his name, a practice not uncommon in the sixteenth century, was a native of Frankfort on the Main, celebrated for his knowledge of botany, upon which science he published a work in folio, in 1533, and again in 1566. This work belonged properly to Cuba; and the only merit Rösslin has in the performance, is, having made additions to it, augmenting it by all that Jerome of Brunswick had published, and illustrating the whole by better figures. It is, strictly speaking, a kind of Hortus Sanitatis, treating alike of plants and metals useful in medicine, and is called "Kreuterbuch (Book of Plants) von aller Kreuter, Gethier, Gesteinen und Metal, Nutz und Gebranche." Eloy mentions* the work on midwifery, and gives as its title, "*De Partu Hominis et quæ circa ipsum accidunt, adeoque de parturientium et Infantium morbis atque curâ libellus. Parisiis, 1535. 8vo.*," but he erroneously places the first German edition as belonging to the year 1532, four years posterior to the date of Mr. Inglis's copy. The writer of this sketch has examined this copy, and finds its title to be, "*Der Schwangeren frawen und Hebammen Rosegarten.*" A wood-cut, on the title-page, represents the mother in bed, attended by two females, whilst the infant is being bathed by the nurse. On the reverse of the title is also another wood-cut, representing the delivery. The work is dedicated by the author to Katherine of Saxony, Duchess of Brunswick and Lunenburgh, with "*Ermannung zuden Schwangeren frawen und Hebammen,*" a poem in five pages, dated "*Wurms, 20 Hornung, 1513,*" which may therefore be considered as the date of the earliest edition of the work. The cuts mentioned in the English copies are to be found in the original; the place of printing, and date of which, are thus expressed:—"Gedrückt und vollendet inn der Keyserlichen statt Augspurg, durch Heinrich Steyner, 19 Novem. 1528."

Raynolde's translation is to be regarded as different from that by Jonas, of which only one printed edition is mentioned by Ames as having been executed in 1540, and which is of exceeding rarity. Raynolde's first edition seems to be of the date of 1545, and is said to be printed by Thomas Ray. As he is not known as a printer, it is probably a contraction of the translator's name, and he may have undertaken the printing of the work. Of this translation many editions are extant, printed by Jugge, and other well-known

* Diet. Hist. de Medicine, ii. 166.

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printers; and the work, according to Dr. Denman, was the text-book of midwifery for nearly a century.

From this digression let us now more immediately revert to the distinguished physician whose name is placed at the head of this article. With unmixed delight we must view the exercise of the talents of such men as William Hunter, Denman, Osborn, Smellie, Blundell, Merriman, Ley, and others, to the relief of the sufferings of women in the hour of childbirth. No names, however, stand more conspicuously among modern philanthropists of this class, than the Clarkes. Dr. John Clarke, an elder brother of Sir Charles, must here be specially mentioned. He was highly celebrated for his sound and judicious views in whatever related to the practice of midwifery, or the diseases of lying-in women and infant children. He brought to the exercise of a department, which had, in former times, been assigned chiefly to the care of women, a knowledge necessary to the practice of a physician. He laboured with assiduity to develop the mysterious processes of generation; and demonstrated that the consideration of these phenomena were connected generally with the functions of the animal economy, and equally worthy of the study of the philosopher and the physician. He was a fellow-student of Dr. Baillie, and attended the lectures of the Hunters. He studied midwifery under Dr. Denman and Dr. Osborn, and afterwards became associated with them as a lecturer in this branch of science. He rapidly attained to a most extensive practice, and published the following works:—

1. Province of Midwifery in the Practice of this Art disclaiming against Male Practitioners. 1751.—2. A Satirical Tract on the same Subject.—3. An Essay on the Epidemic Disease of Lying-in Women, of the Yaws, 1787 and 1788. 1788.—4. Practical Essays on the Management of Pregnancy and Labour, and on the Inflammatory and Febrile Diseases of Lying-in Women. 1793, 1806.—5. Commentaries on some of the most important Diseases of Children. 1815.—6. On the Effects of certain Articles of Food, especially Oysters, on Women after Childbirth. 1815.—7. History of a Fatal Hæmorrhage from the Laceration of the Fallopian Tube from the Case of an Extra-Uterine Fœtus. 1793.—8. Observations on the case of a Woman who died with a Fœtus in the Fallopian Tube. 1800.—9. Fatal Case of Hernia of some of the Abdominal Viscera stragulated in the Cavity of the Thorax. 1800.—10. Observations on the Management of Cases in which the Face of the Child presents towards the Os Pubis. 1800.—11. Description of an Extraordinary Production of Human Generation. Phil. Trans. 1793.—12. Of a Tumour in the Placenta. Ib.

The practice of Dr. John Clarke became too extensive for his strength, and it was necessary to lessen the fatigue of his professional labours; he therefore transferred to his brother (now Sir Charles Mansfield Clarke) a considerable portion of practice, which neither his health nor his time would allow him satisfactorily to execute. A facetious member of the medical profession, and a very worthy man, was pleased to sport, in what he called

SIR CHARLES MANSFIELD CLARKE, BART.

“Nugæ Canoræ, or Epitaphian Mementos (in Stone-cutter’s Verse) of the Medici Family of Modern Times,” upon this circumstance, in the following ludicrous manner:—

“Beneath this stone, shut up in the dark,
Lies a learned man-midwife, y’clep’d Doctor Clarke.
On earth while he lived, by attending men’s wives,
He increased population some thousands of lives:
Thus a gain to the nation was gain to himself;
And enlarged population, enlargement of pelf.
So he toiled late and early, from morning till night,
The squalling of children his greatest delight.
Then worn out with *labours*, he died skin and bone,
And his ladies he left all to *Mansfield* and *Stone*.”

The anachronism in the last line must be regarded as a poetical license; since Mr. Stone, the son of Dr. A. D. Stone, Physician to the Charter House, and the nephew of Dr. John Clarke, was not at that time in practice. Dr. John Clarke died in August, 1815, aged fifty-six years. His death was caused by dropsy, the effect of organic change in the stomach. Had he lived, it is probable, he would have continued his valuable Commentaries upon some of the important diseases of children.

The success, unequalled success, of Sir Charles Clarke, is not, however, to be attributed merely to the celebrity of his brother. He possesses a quick and lively penetration, knowledge, and judgment, which deservedly render him a practitioner of the very first eminence. No other physician can quit London for five or six successive months, and return to exercise as much practice as he is disposed to accomplish. He may be said to enjoy the highest professional reputation. It has been earned and secured by a studious devotion to his profession, directed by all that is honourable and liberal towards his brethren and the public. It would be difficult to name a practitioner who is more generally esteemed and respected than Sir Charles Clarke. He is the son of Mr. John Clarke, of Chancery Lane, Surgeon; was born on the 28th of May, 1782, and received his classical education at St. Paul’s School. His medical education was derived by attendance at St. George’s Hospital, and from the Lectures on Anatomy, at the Hunterian School, by Mr. Wilson and Mr. Thomas. Also on Surgery, by Mr. Wilson; on *Materia Medica*, Chemistry, and the Practice of Physic, by Dr. George Fordyce and Dr. George Pearson; and on Midwifery, by his brother Dr. John Clarke. Having thus obtained all necessary preliminary knowledge of his profession in its various branches of study, he was admitted a Member of the Royal College of Surgeons, and spent two of the earliest years of his professional life as an Assistant Surgeon in the Hertfordshire Militia,

SIR CHARLES MANSFIELD CLARKE, BART.

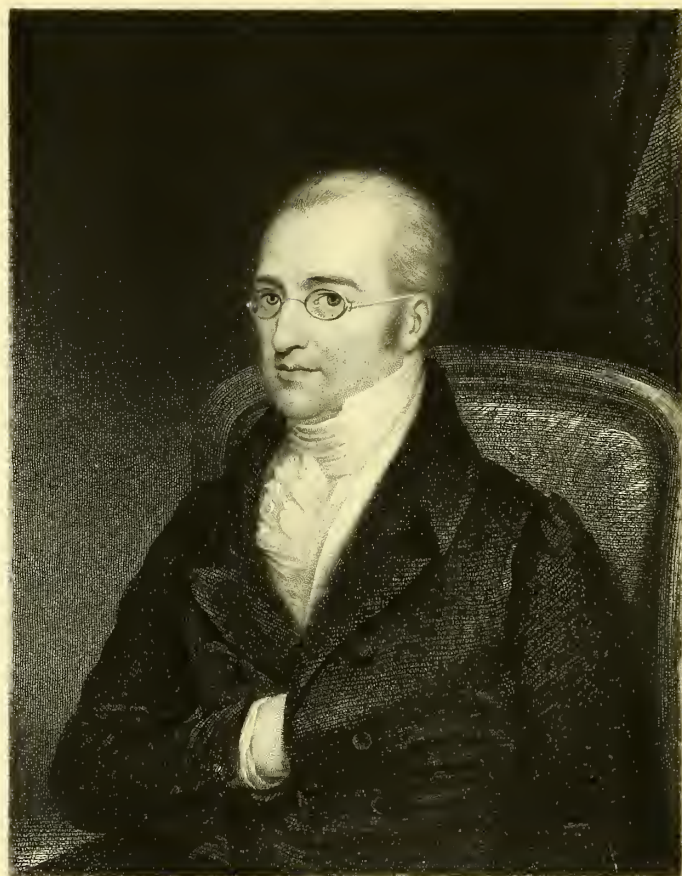
and in the Third Regiment of Foot Guards. He subsequently devoted his attention more particularly to the subject of midwifery, and to the diseases of women and children. He associated with Dr. John Clarke as a lecturer on these subjects, in 1804, and continued to deliver regular courses until the year 1821. For many years he held the appointment of Surgeon to the Queen Charlotte's Lying-in Hospital, which he resigned about the time he ceased to lecture; but the interests and welfare of the Institution still continue to be objects of his attention and regard. In the year 1825 he was chosen a Fellow of the Royal Society; and having, in the year 1827, become a Licentiate of the Royal College of Physicians, he was appointed, in the year 1830, Physician to the Queen Adelaide, on the accession of King William IV. to the throne of these realms. On September 30, 1831, he was created a Baronet; and in the year 1836 was elected, by the Fellows of the Royal College of Physicians, into their body.

Incessantly engaged in the performance of the active duties of a most laborious profession, Sir Charles has not had leisure for many literary productions. The excellence of that which he has published serves only to awaken our regret that he should not have written more. His works display acute perception, accurate observation, force and power of judgment, and prove their author to be the possessor of a vigorous and comprehensive mind. In the third volume of the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge," Sir Charles has detailed a "Case of Sudden Death during Parturition; with an Account of a Singular Disease of the Uterus, which was discovered upon opening the Body." The peculiar condition here referred to consisted of numerous lacerations of the peritoneal coat of the organ, without any rupture of its muscular structure. The case is very difficult of solution. The preparation was preserved, and deposited in the late Mr. Wilson's museum. Our author does not undertake to explain the appearances presented in this case; he contents himself with shewing the inefficiency of any explanation afforded by the ordinary suppositions which naturally present themselves to the inquirer on the occasion. Very few cases of this kind are known: one occurred in the practice of Dr. David Davis, and is related by him in his "Principles and Practice of Obstetric Medicine," vol. ii. p. 1065. Mr. W. H. Partridge, of Birmingham, has also related a case, (*Med. Chir. Trans.* v. xix.) and Dr. John Ramsbotham has recorded one in his "Practical Observations on Midwifery," p. 409. The fleshy structure of the uterus did not seem to be implicated in the injury sustained in these cases.

Sir Charles Clarke has published a very important work, consisting of "Observations on some of the Diseases of Females." His object, one of

SIR CHARLES MANSFIELD CLARKE, BART.

practical utility, is well and modestly expressed in his preface. It has appeared to him desirable, "to make some arrangement of the sexual diseases of the female; and to shew that diseases having some symptoms in common, are, nevertheless, very dissimilar in their character, and require very different treatment;" also, "to demonstrate the impropriety of designating diseases by names which do not convey a true idea of their character; and to point out the dangerous consequences of treating symptoms instead of diseases." His opportunities to do justice to the subject have been great:—extensively engaged with his brother in practice, connected with the school rendered illustrious by the names of Denman and Osborn, it was next to impossible that a mind so active, so inquisitive, and so powerful as that possessed by our author, should not have enabled him to give to the medical public a valuable addition to the branch of his profession to which his attention had been so especially directed. He has truly said, that, "in this work no more hypothetical reasoning has been admitted than was absolutely necessary. The author has endeavoured to confine himself to facts, and the simple narrative of them: he has no new theory to offer—no new medicine to propose, the virtues of which he is desirous of establishing." No quackery—nothing exclusive. No part of medical inquiry has needed more patient investigation than that to which Sir Charles has applied himself; no branch less perfectly understood by the profession at large; yet none involves more serious consequences from imperfect knowledge, as directed to the means of relief to be afforded. It would not be possible, within the limits of this Memoir, to give even an analysis of this work; which, it may be observed, consists of two parts; one of which was published in 1814, the other in 1821. They necessarily form an essential part of every medical library, and they cannot be too carefully studied. His pathological researches are directed to the most useful and practical object; and the simple and unadorned manner in which he has communicated his knowledge, and the results of his practice in the diseases of females, have been duly estimated by the profession, and have been beneficial to the relief of suffering humanity. Sir Charles Clarke brought to his aid an acquaintance with all that previous writers of authority on these subjects had handed down to us; he has refuted their errors, or established their conjectures. He has shewn the relation of the different parts to each other in the exercise of their functions, and the modifications of the symptoms characteristic of their diseases; and upon these just and philosophical views he has established a rational ground of cure. Whatever difference of opinion may be entertained as to the merits of the classification he has adopted, the work must be regarded by all as a most valuable contribution to medical science.



W. J. L.

John Locke

JOHN COOKE, M.D.

F.R.S. F.S.A.

“Placidaque ibi demum morte quievit.” . . . VIRGIL.

DR. COOKE is descended, on the paternal side, from a highly respectable family in Edith Weston, in Rutlandshire, and, on the maternal side, from an ancient family, well known in Lancashire, of the name of Pilkington, formerly Pylketon. His maternal grandfather was a dissenting clergyman, who studied and took the degree of Master of Arts at Glasgow. Dr. Cooke was intended by his family for the church; and the earlier part of his education was conducted at a seminary founded by the pious and celebrated Dr. Doddridge, at Northampton. The preliminary part of his education being completed, he directed his views, however, to the study of medicine, a profession more congenial with his inclination; and his uncle, Mr. Stead, being at that time apothecary to Guy's Hospital, he entered as a physician's pupil, and attended the medical lectures of Dr. Saunders, and the chemical ones of Mr. Keir, also the anatomical of Dr. Mc Laurin and Sir W. Blizard, and the practice of Drs. Hinckley, Tomlinson, and Saunders.

From the hospital he went to Edinburgh, the chief school of medicine, and there attended the classes of medical science then conducted by Drs. Cullen, Gregory, Black, and Monro. From Edinburgh he passed to Leyden, where he studied for nearly two years, and then took a degree of Doctor of Medicine. The subject chosen for his thesis on this occasion was *De Usu Corticis Peruviani in Morbis non Febrilibus*.

Upon his return to London, he was elected physician to the General Dispensary in Aldersgate-street, the first of the kind ever established, and the practice of which has always been of very considerable extent. A larger field, however, for the exercise of his medical talents soon presented itself, by his appointment to the London Hospital; and no physician can be said to have more satisfactorily performed the arduous duties attached to such a position, as respected the patients, the pupils, and the governors of the charity, than Dr. Cooke. The regularity of his attendance, his kindness and sympathy, and deep attention to his patients, and his readiness to give to the pupils every instruction the several cases demanded, ensured to him the good-will and esteem of every one connected with the institution. In addition to the clinical instruction given at the bedside of the invalids,

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Dr. Cooke also delivered regular courses of lectures on the theory and practice of medicine, which embraced a clear and succinct view of the doctrines promulgated by different professors, illustrated by references drawn from his own observation and experience. The high classical attainments of Dr. Cooke enabled him to give to his hearers a complete and satisfactory statement of the doctrines of the earlier professors of the medical art; and it is much to be regretted, that the notes of these lectures, having been all written in short-hand, capable only of being read by the author, are thereby lost to mankind. Dr. Cooke lectured at the London Hospital, and performed the duties of physician to that institution upwards of twenty years. Upon his resignation, he received the thanks of all connected with the charity, accompanied by expressions of their deep regret at his departure.

His health, however, declining, his medical labours became restricted entirely to private practice. No one could enjoy in a higher degree the confidence of his patients; this will readily be conceived by all who had the happiness to be known to him, for his manners were those of a gentleman and a scholar, entirely devoid of pedantry, and marked by a kind and proper deference for the opinions entertained by others. Independent in every sense of the word, he was always ready freely to express, and manfully to maintain his opinions. An enemy to flattery, and little solicitous of popular applause, the course of study pursued throughout his whole life gave to him a tone of mind, a clearness of conception, and a consequent decision of character, highly to be envied, and much to be admired. He mingled largely in the society of men of all ranks, opinions, and pursuits, and all have been proud to consider him as their friend. With the late Dr. Matthew Baillie he was well acquainted. A most confidential friendship existed between those two celebrated physicians, with mutual advantage, for a great number of years. To Dr. Cooke were entrusted the revision and correction of several of Dr. Baillie's papers, and Dr. Cooke enjoyed the advantage of Dr. Baillie's remarks on his own "Treatise on Apoplexy, Palsy, and Epilepsy," which was highly approved by Dr. Baillie, and of which he justly predicted that it would be "a standard work."

Dr. Cooke, as before stated, graduated at Leyden, by which, upon settling in London, he could, according to the laws of the Royal College of Physicians, only become a licentiate of that body. But, among other powers vested in the president of this institution, is that of being able to nominate for election any one from the list of licentiates to become a Fellow of the College. Dr. Cooke's character and talents entitled him to this distinction. Few members of this learned body were his equals in classical

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attainments, and none could exceed him in high moral qualities, in integrity of mind and heart, or in extent of practice and medical knowledge. The President, the late Sir Lucas Pepys, Bart., nominated Dr. Cooke, and in 1809 he was duly elected a Fellow.

In 1819, Dr. Cooke was appointed to deliver the Croonian Lectures at the College, and he chose for his subject one of the most interesting, but certainly most intricate, parts of the human frame—the *Nervous System*. Preparatory to the lectures on nervous diseases, he delivered some introductory discourses, giving an account of the opinions of ancient and modern physiologists, respecting the nature and uses of the nervous system; and a more ably stated case of this truly difficult subject, cannot be found. The plan adopted in this work, (for the lectures were published in two vols. 8vo. in 1820-3,) is highly worthy of notice, for, were it more generally followed up, it would necessarily reduce the number of volumes which it is now absolutely requisite to read, to arrive at just ideas of the knowledge professed upon any one subject of medical research. In this work the author has been at considerable pains to collect, to arrange, and to communicate all useful observations that have been made by the ancients and the moderns, upon the principal diseases of the nervous system. The late Dr. Thomas Young has done the same upon the subject of phthisis pulmonalis, and with equal ability. These are the only works of the kind we possess, embracing, within a reasonable compass, a well-digested and perfect summary of all that is known upon the subjects of which they treat. It would require many pages to give any kind of epitome of the contents of Dr. Cooke's work; it must be in the library of every man who feels an interest in his profession. The first volume is altogether on the subject of apoplexy; the second, on palsy and epilepsy. References are given to many sources whence opinions or information have been drawn; and to those to whom the dead languages are not familiar, or who have not the means of consulting the ancient authors, these volumes will prove very satisfactory; they are, indeed, alike useful to the student and the practitioner. They give not only the opinions of all preceding physicians and physiologists, but also the results of the author's own practice, which clearly demonstrate the patient and close attention he has paid at the bed-side of the sick; whilst the decisions at which he arrives, mark the solidity of his understanding, and the profundity of his judgment.

In 1830 the College elected him to deliver the Harveian Oration, which presents a specimen of most elegant latinity, as well as a judicious arrangement of subjects suited to such an occasion. His well-drawn character of his friend Dr. Baillie, will be noticed under the memoir of that distinguished

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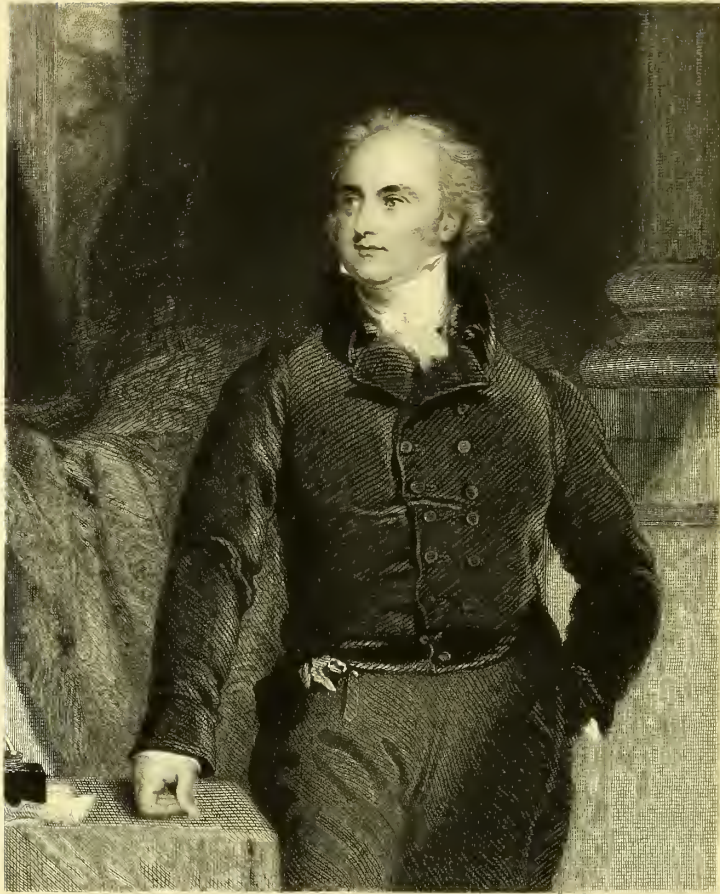
physician and physiologist: that on the labours of Harvey, is no less powerful and just.

In 1799, great alarm prevailed in the city of London, occasioned by the sudden death of two men who had been employed in landing some cotton; and from the manner of their decease, a suspicion was engendered that they had received the infection of the plague from the goods that had been imported. The fears of the government were excited, and the lord-mayor, at that time Harvey Christian Combe, was directed to order proper inquiries to be made upon the subject. His lordship applied to Dr. Cooke, who, having fully investigated the matter, drew up a report, which had the effect of completely tranquillizing the public mind on the occasion. Dr. Cooke was one of the Fellows appointed to superintend the publication of the Transactions of the College. He was a Fellow of the Royal Society, a Fellow of the Society of Antiquaries, and was, during the years 1822-3, President of the Medico-Chirurgical Society.

From declining health, he had, for ten years prior to his death, relinquished all practice, and, to the deep regret of a very numerous circle of enlightened and sincere friends, appeared very little in society; his time was, however, spent in the perusal of all that is elegant in literature, or valuable in science, for his mind retained its wonted vigour, though the weakness of the body necessarily limited the boundaries of social intercourse. For several months towards the close of his life, he laboured under considerable suffering, arising from an affection of the bladder, which, with other causes, gave rise to a most distressing nervous irritability, constituting that disease which the poet has so well described, and which he justly says,

“ Claims most compassion, and receives the least.”

Dr. Cooke, however, derived much relief from the attention of his medical friends, who were anxious to render him every assistance in their power, and soothe the last days of his existence. He felt much the loss of society, for during a long life he had mixed largely with the world, and enjoyed the company of the choicest spirits of the age. He died on the 1st day of January, 1838, having arrived, it is supposed, to the advanced age of eighty-six or eighty-seven. He retained his faculties to the last, occasionally indulging his passion for Greek literature; and the last exercise was probably the reading of a page or two to the writer of this sketch, from his favourite Glasgow edition of Homer, printed by Foulis, which he had interleaved, and enriched with many notes



Arthur Gordon Cooper

SIR ASTLEY PASTON COOPER, BART.

G.C.H. D.C.L. F.R.S.

SERJEANT-SURGEON TO THE QUEEN.

“A life well spent, whose early care it was
His riper years should not upbraid his green ;
By unperceived degrees he wears away ;
Yet, like the sun, seems larger at his setting.”

BLAIR.

Was surgery an art antecedent to medicine? is a question that has been frequently discussed. In the primeval ages of the world—when mankind lived in a state of nature, when exercise in the open air gave a relish to the enjoyment of simple food—robust and vigorous constitutions, and a proportionate absence of disease, must have been the result. One may easily suppose that the functions of the body would go on unimpaired by disease, and that life would at length become extinct only by a gradual and entire decay. But as no exemption to the consequences of accidental violence could be afforded, and, as in cases of wounds, where the cause and effect would be obvious to the external senses, and where the pain must have been both immediate and violent, there can be no doubt that aid would be instantly sought for. From these and other circumstances, it appears that surgery must be regarded as the primary, the most ancient branch of medicine. We have not, however, any authentic accounts of the mode of treatment in the first ages of the world, further than that they used to wash the wounded parts with warm water, to suck them clean, and to apply the juice of vegetables pounded, or steeped in wine, or water, oils, resin, the bark and roots of certain trees, and bandages. Eurypylus when wounded with an arrow, addresses Patroclus :

“ But thou, Patroclus, act a friendly part,
Lead to my ships, and draw this deadly dart ;
With lukewarm water wash this gore away,
With healing balms the raging smart allay,
Such as sage Chiron, sire of pharmacy,
Once taught Achilles, and Achilles thee.”

Iliad, lib. iv. v. 218.

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When Menelaus was wounded in the side by an arrow, Machaon, the son of the Grecian Æsculapius, after washing the wound, and sucking out the blood, applied a dressing to appease the pain, of the juice of roots bruised, the principal remedy then known. So again in the Iliad we read :

“ Then suck'd the blood, and sov'reign balm infus'd,
Which Chiron gave, and Æsculapius used.”

Considering the frequency of quarrels and bloody battles, which convulsed mankind in the most early periods of time, it has been well remarked, that one would expect to have seen surgery more progressive, from the experience which might have resulted, in consequence of the situation of the wounded and prisoners; but in these primeval times, when mankind were less civilized, and more weakly connected by the mutual obligations and ties of society, very little attention was given to captives, who were considered as the slaves of the conquerors. The mode of making war, too, among the ancients, was no less inhuman than fatal. The experience, however, which accidents or wars could afford, must have been very slow, for want of the collateral knowledge of anatomy, upon which the progress and improvement of surgery most essentially depends. In modern times it is not possible, perhaps, to name any one who has more powerfully contributed to the improvement of his science by the application of sound anatomical knowledge, than the respected individual whose name stands at the head of the present memoir. No one has reached a higher position in the profession, or maintained that distinction for so long a period.

The father of SIR ASTLEY PASTON COOPER was the Rev. Dr. Samuel Cooper, of Yarmouth, in the county of Norfolk. His mother, Maria-Susanna, sprung from the family of the Pastons, but was daughter of James Bransby, Esq. of Shottisham, in the same county, and known as the authoress of a novel called “The Exemplary Mother.” Sir Astley is the fourth son of these parents, and was born at Brooke in Norfolk, August 23d, 1768. It is from the most laudable motives that we feel an anxiety to learn of the early life and dispositions of those who, by their talents and zeal, have proved themselves benefactors to science and mankind, for true it is, that,

“ ————— The childhood shows the man,
As morning shows the day.” MILTON.

In his boyhood, Sir Astley is said to have shown a bold and enterprising spirit; to have been remarkable for his social and friendly disposition, and for the animation with which he would enter into the sports of his juvenile companions. The village schoolmaster, Robert Larke, gave to him the

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rudiments of his education in reading, writing, and arithmetic; but his classical knowledge was derived from the instruction of his father, a good scholar, and the Rev. Joseph Harrison. Many anecdotes have been related demonstrative of his intrepidity and enterprise, qualities for which his professional labours have been particularly distinguished.

Having received part of my professional education at the Borough hospitals, I am competent to speak to this point, from having witnessed, during several of Sir Astley's earlier years, the chief of the operations performed by him at Guy's Hospital. I can never forget the enthusiasm with which he entered upon the performance of any duty calculated to abridge human suffering. This enthusiasm, by the generosity of his character, his familiar manner, and the excellence of his temper, he imparted to all around him—the pupils imbibed the same spirit; and the extent of the obligations of the present and of after ages to Sir Astley Cooper, in thus forming able and spirited surgeons, can never be accurately estimated. He was the idol of the Borough school—the pupils followed him in troops, and, like to Linnæus, who has been described as proceeding upon his botanical excursions accompanied by hundreds of students, so may Sir Astley be depicted traversing the wards of the hospital with an equal number of pupils, listening with almost breathless anxiety to catch the observations which fell from his lips upon the several cases presented to his view. But, on the days of operation, this feeling was wound up to the highest pitch—the sight was altogether deeply interesting; the large theatre of Guy's crowded to the ceiling—the profound silence obtained upon his entry—that person so manly and so truly imposing—and the awful feeling connected with the occasion—can never be forgotten by any of his pupils. The elegance of his operation—without the slightest affectation—all ease—all kindness to the patient, and equally solicitous that nothing should be hidden from the observation of the pupils—rapid in execution—masterly in manner—no hurry—no disorder—the most trifling minutiae attended to—the dressings generally applied by his own hand. The light and elegant manner in which Sir Astley employed his various instruments always astonished me, and I could not refrain from making some remarks upon it to my late master, Mr. Chandler, one of the surgeons to St. Thomas's Hospital. I observed to him, that Sir Astley's operations appeared like the graceful efforts of an artist in making a drawing. Mr. C. replied, "Sir, it is of no consequence what instrument Mr. Cooper uses, they are all alike to him; and I verily believe, he could operate as easily with an oyster knife, as the best bit of cutlery in Laundry's shop." There was great truth in this observation. Sir Astley was, at that time, decidedly one of the first operators

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of the day, and this must be taken in its widest sense, for it is intended to include the planning of the operation, the precision and dexterity in the mode of its performance, and the readiness with which all difficulties were met and overcome.

From this digression, naturally occasioned by allusion to the intrepidity of Sir Astley in his youth, let us return to the course of his study. Having imbibed some portion of classical instruction, he was placed, at the age of fifteen, with Mr. Turner, a surgeon and apothecary, at Yarmouth, and in this manner he was introduced into that profession of which he was to become the brightest ornament. Having been a few months in this confined sphere, he came to London, and was bound apprentice to his uncle, Mr. William Cooper, one of the surgeons of Guy's Hospital; but with him he remained only three months, being then transferred, by his own desire, to Mr. Cline, the eminent surgeon of St. Thomas's Hospital. This connexion gave full scope for the display of his character, and afforded him every opportunity that could be given for obtaining information, directed by the guidance of a master distinguished by a truly philosophical mind and spirit, and of whom Sir Astley has always spoken in terms of the most profound veneration and regard for his private worth, and with the greatest respect for his knowledge, judgment, and ability as a surgeon. Sir Astley's labours in the dissecting-room were incessant—his attention at the hospital—his examination of accidents not less unremitting: and by this continual observation, united to his sound anatomical information, may be attributed the superiority he has justly acquired in forming a diagnosis upon the nature of accidents or disease.

In 1787, Sir Astley visited Edinburgh for a short time, and distinguished himself at the Royal Medical Society, though he had not yet reached twenty years of age. Upon his return to London, his master, Mr. Cline, who was the teacher of anatomy, physiology, and surgery at St. Thomas's Hospital, appointed him his demonstrator of anatomy, and soon after gave to him a part of the anatomical lectures. Sir Astley also gained Mr. Cline's consent, and that of the other surgeons of St. Thomas's and Guy's Hospital, to give a course of lectures on the principles and practice of surgery, which had previously only formed a part of the anatomical course, and these lectures were really the foundation of his fame and fortune. His class at first consisted of fifty students, but they increased to 400, which was by far the largest ever known in London, and he gave a share of these lectures to Mr. Travers, Mr. Henry Cline, and to Mr. Joseph H. Green, consecutively. A little practice soon rendered him a popular teacher. He made no attempts at oratory; but laboured to render the subject as plain and

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intelligible as possible to his hearers—he did not distract them by the introduction of controversial subjects connected with physiological science.

His apprenticeship ceased in 1791, the year he commenced as a lecturer; and at the close of it, he married the daughter of Thomas Cock, Esq., of Tottenham, a distant relation of Mr. Cline: and to show how solicitous he was, never to neglect the performance of any public professional duty, it may be told, that on the evening of the day on which the marriage ceremony was performed, he delivered his customary lecture, without any knowledge of what had happened being communicated to his class.

In the year 1792 he went to Paris, and attended the lectures of Desault at the Hôtel Dieu, and those also of Chopart. The former of these was an excellent practical surgeon, and a man of acute mind; and Sir A. C. gained from him much of his knowledge of injuries of the head, which were at that time by far too frequently the subjects of surgical operations in London. He has often mentioned an anecdote of Desault, to show his acuteness and loyal spirit. A boy came before him at his clinical lecture, complaining that his right arm was paralytic. Desault suspected the truth of his story, and said, “Otez votre chapeau:” the boy, forgetting his paralytic story, immediately raised his arm and took off his hat. “Donnez moi un baton,” said Desault; and he beat the boy unmercifully, and said, “D’où venez vous?” the boy replied, “du Fauxbourg de St. Antoine.” “Oui, je le crois,” said Desault, “tous les coquins viennent de ce quartier-la.” It is hardly necessary to say, that the mobs of Paris sprung from the Fauxbourg St. Antoine. Sir A. C. states, that Desault gave lectures in anatomy, and admirable clinical lectures; he was very attentive to his duties in the hospital, and had a very large share of private practice. Chopart he considered to have been a very inferior man to Desault, and little acquainted with the first principles of his profession.

On the 10th of August, 1792, Sir Astley Cooper was attending an operation at Chopart’s Hospital, when the fire of cannon announced the attack upon the château of the Tuilleries, and he immediately ran upon the Pont Neuf, whence he could see the Swiss guards firing from the windows on the people below. As his lodging was near the Place Victoire, he had to go through the streets near the Palais Royal, when the scene became of the most extraordinary description. The cannon was still roaring—muskets firing—the tocsin sounding—litters with the dead and dying carried through the streets—the women crying for the loss of their relatives, and from apprehensions—and bodies of men armed with pikes were carrying either the heads or some parts of the bodies of the Swiss they had killed, as

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trophies of their victory. On the following day he saw the king and queen go to the Temple, which they only quitted for their execution. Sir A. C. several times heard Brissot, Vergniaud, Gaudet, Marat, and Robespierre address the Legislative Assembly, and was once at the Jacobin Club. He saw two persons, a marquis and a priest, guillotined for forging assignats. In later days, instead of wasting his time in the summer months upon our coast, he has frequently visited the continent, and he became intimately acquainted with Dupuytren, who had the kindness to give him admission to the dead-house of the Hôtel Dieu, that he might pursue the objects which he had in view by the inspection of any cadâvres he chose. Sir A. C. considered Dupuytren as an excellect practical surgeon, as a sensible man, as an admirable clinical lecturer, and as the best of fathers, for he idolized his daughter, and she was most affectionately attached to him. Dupuytren introduced Sir A. C. to Louis Philippe, then Duke of Orleans, who afterwards gave him the Cross of the Legion of Honour, and soon afterwards he was made an honorary member of the National Institute.

In the year 1792 he commenced practice, and took up his residence in Jeffrey's-square, St. Mary Axe, where he dwelt for six years; after which, he removed to New Broad-street, Bishopsgate, and remained there until 1815, when he came to the West end of the town. The popularity he enjoyed as a surgeon, and the extent of his practice, has been greater than that of any of his predecessors, or those who have succeeded him. He has most honourably and justly realised a large fortune by distinguished merit and most laborious application. During a long practice, he never omitted to deliver his regular lectures, and the detail of his daily labours is a matter almost past belief. Sir Astley was always, and still is, an early riser, and the first hours of the day were devoted to the making of dissections, arranging of preparations; and patients in his neighbourhood were frequently visited before the hour of breakfast, which usually occupied but a few minutes: Patients applying at his residence for advice, were then seen until one o'clock; after which, the hospital was visited, a lecture on anatomy and physiology delivered, operations performed, &c.; the patients visited at their own homes until seven o'clock, at which hour, or frequently later, a frugal dinner was taken, with a very limited quantity of wine, for Sir Astley has been remarkable for his temperance. After dinner, a repose for a quarter or half an hour; and then again, twice a week to lecture on surgery, and to visit patients until midnight. I witnessed this course for a very long period, and it is incredible how such great exertions could be sustained for such a period of time. As a lecturer, Sir Astley was remarkable for his spirit and animation. However serious his humour might

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chance to be, from the pressure of professional avocations, and the deep and awful responsibility with which he was affected on every side, the assumption of his place in the lecture theatre seemed to throw new life into him, to impart a vigour to his frame, and to give full scope to his professional enthusiasm. No lecturer ever commanded greater attention from his pupils, and no one, most certainly, was ever more deserving of such attention.

In the course of his practice, Sir Astley has met with many remarkable circumstances, and he now equally delights and amuses his friendly circle with the narrative of them. He received, perhaps, the largest fee ever at that time given for an operation; it was upon an old gentleman of the name of Hyatt, who was a resident in the West Indies, and when arrived at the age of seventy, being afflicted with stone in the bladder, determined upon coming over to England to undergo the operation for its removal. He selected Sir Astley for the occasion. It was performed with his accustomed ability; and upon visiting him one day, when able to quit his bed, he observed to his surgeon, that he had *fee'd* his physicians, but that he had not yet remunerated his surgeon. He desired to know the amount of his debt; and Sir Astley stated, "two hundred guineas." "Pooh, pooh!" exclaimed the old gentleman, "I shan't give you two hundred guineas—there—that is what I shall give you," tossing off his night-cap, and throwing it to Sir Astley. "Thank you, sir," said Sir A. "any thing from you is acceptable," and he put the cap into his pocket. Upon examination, it was found to contain a cheque for one thousand guineas. 'One other anecdote must be related, as it is singularly illustrative of character. Mr. Steer consulted Sir A. at his own residence, and, having received his advice, departed without giving the usual fee. Sir Astley took no notice of this, but gave his assistance to him cheerfully, under a belief that he was a gentleman who had seen better days, and was now in indifferent circumstances. Shortly after, however, Sir Astley received a note, acquainting him, that on going to the Stock Exchange, he found he had some omnium which he had not disposed of, and that he had taken the liberty of putting £3,000 of it in his name; and finding that it had soon after risen, he took the further liberty of selling it for him, and now sent him the difference, which was, £63. 10s.—Sir Astley's annual receipt of fees far exceeds that of any other member of the profession. In one year he received no less a sum than £21,000, and for many years from £15,000 and upwards. His patients have comprised all classes of society, and his attention was equally bestowed on the wealthy and the indigent.

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He was appointed surgeon to George IV., and in the year 1827 made serjeant-surgeon. He attended William IV. when he was First Lord of the Admiralty; and the Earl of Munster, when he had a severe compound fracture of his leg; and at the request of the Duke of Wellington, was made Grand Cross of the Guelphic Order.

In 1821 Sir Astley was created a Baronet, with remainder, in default of male issue, to Astley Paston, the fourth son of his second brother, the Rev. Samuel Lovick Cooper, rector of Ingoldsthorpe and Barton, Norfolk. By his marriage with Miss Cock, Sir Astley had only one daughter, who died at the early age of two years. Lady Cooper died in June 1827; and in July 1828, Sir Astley again entered the married state with Catherine, daughter of John Jones, Esq. of Derry Ormond, Cardiganshire.

Sir Astley Cooper, when most engaged in lectures and the practice of his profession, always made it a rule to enter in his case-book all the interesting operations and cases which he witnessed, and these books he has regularly preserved from 1800, and occasionally some prior to that period, as far back as 1784.

He commenced as a lecturer at St. Thomas's Hospital in 1791, and continued to lecture until 1826. He also delivered a course of lectures on comparative anatomy, at the Royal College of Surgeons, of which he is a member of the council, and of the board of examiners, and was elected President for the years 1826 and 1837. In addition to many honours already mentioned, numerous foreign academies, and almost all the scientific institutions of this country, have been eager to enroll his name among their members; the Royal Institute of Paris, of the Netherlands, &c. The University of Oxford has conferred upon him the degree of Doctor of Civil Law.

The works of Sir Astley Cooper, to which attention must now be directed, are written without pretension to elegance; they are directed only to the statement of facts, and are indeed not brought forward with any view to the support of a preconceived theory; they are the unbiassed relation and results of a very long and extended experience, and they abound with sound practical observations. It is much to the credit of Sir Astley Cooper, that his works, although costly, have been published at a low price. The expense of engravings, particularly when coloured, must always be great; and it is due to Sir Astley to say, that his object in publishing has not been pecuniary advantage. He has been actuated by a higher motive, and this may be given in his own words.

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“ After having been for forty years placed in a situation of ample opportunity—after having been fostered by the profession and the public, infinitely beyond my deserts—I feel that I only perform my duty in giving to my medical brethren, without any sordid views, the result of my experience.”

1. In a volume of “ Medical Researches, selected from the papers of a Private Medical Association,” published in 1798, Sir A. Cooper has two contributions. The first is a case of strangulated hernia, in which a part of the abdominal viscera was protruded into the left cavity of the chest, and death thereby produced. Such a condition of parts could only be ascertained by inspection after death; and the record of it, as an unusual occurrence, resulting from original malformation, is not without its value. The subject of it was brought into the anatomical theatre of St. Thomas’s Hospital for dissection; and the particular history is therefore not well known. The viscera were very much displaced from their natural situation, and the great arch of the colon, and a large portion of the omentum, were pushed through an aperture in the diaphragm into the cavity of the chest. Had the existence of such a state been known during life, no possible means of relief could have been afforded.

2. The second contribution to the “ Medical Researches,” is more singular than the preceding one. It details *three* instances of “ Obstruction of the Thoracic Duct;” that channel by which our nutriment must take its course into the circulating system. The protecting power of nature, the care taken to continue the existence of the individual, is most strongly marked in these cases. In the *first*, a scrofulous disease of the valves near to the receptaculum chyli, was found to be present, and prevented the free injection of quicksilver into the vessel. By what means the body was nourished in this case, could not be ascertained, the dissection of the body having proceeded too far to admit of this inquiry, previous to the morbid condition being observed. In the *second* case, however, the contrivance of nature became apparent. The thoracic duct was being injected, and a portion of the wax by force escaped from a divided absorbent, belonging to a cluster of vessels under the left crus of the diaphragm. Quicksilver being poured into this absorbent, it entered into a large vessel, which passed half way up the chest on the left side of the aorta, crossed the spine behind that vessel, and then terminated in the thoracic duct, which became readily filled with the injection from the part diseased, to that at which it opens into the vein. It was ascertained that the obstruction arose from a small fungous substance, of a scrofulous nature, and that one half only of the duct was capable of performing its function. The continuance of life was secured by anastomosing absorbents, which performed the office of the duct,

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and conveyed the chyle and lymph into the blood. The *third* case was of a man admitted into St. Thomas's Hospital, for a fungoid testis. Upon examination, he was found to have a tumour on the lumbar vertebræ, formed by the enlarged absorbent glands, of the enormous weight of $9\frac{1}{2}$ lbs. The thoracic duct was thickened and opaque, resembling rather a nerve than an absorbent vessel; the commencement of it, the receptaculum chyli, was filled with a pulpy matter, and this extended into the duct, which was lost in a swelling of the size of a walnut, opposite to the curvature of the aorta.* Above this enlargement the duct appeared as usual, and terminated in the veins. Sir Astley then believed this disease to be truly cancerous in its nature. In this case the duct was obliterated two-thirds of its course; this was ascertained by injection, and the matter injected was found to pass from the receptaculum chyli, through several vessels behind the aorta into a large trunk, which passed the whole length of the chest on the left side of the spine.

“Through this vessel the injection flowed to the first dorsal vertebra, and then entered the thoracic duct, which being above the part at which the vessel was diseased, there was no further interruption to its passage into the jugular vein. From the side of this trunk several small vessels arose, and having passed behind the aorta, entered the undiseased part of the duct near to the tumour. In this case, then, as well as the former, the obstruction was prevented from producing fatal consequences, by the anastomosing vessels on the left side of the spine, having performed the office of the thoracic duct.”

These collateral vessels may be found in subjects where the duct is healthy, as Sir Astley has shown by some injections, and he has thus verified a remark of Mr. Cline's, as to the probability of these vessels forming the new absorbent channels, in cases of obstructed thoracic duct. It will be evident from this, that the absorbent, like to the arterial system, has the power of accommodating itself to circumstances, and creating a condition of parts capable of carrying on the necessary functions under apparently the most unfavourable circumstances. These cases stimulated Sir Astley to make some experiments, and he is the first, I believe, who succeeded in tying the thoracic duct. Dr. Monro had attempted it, and failed, and I am not aware of its having been successfully performed by any one prior to Sir A. Cooper. These experiments are detailed in the paper just mentioned, and they prove that when the extremity of the thoracic duct is suddenly obstructed, the duct and receptaculum chyli burst and extravasate the chyle and lymph; absorption is, therefore, no longer continued, and the consequences are fatal to the animal. They prove also the contractile

* This preparation is in the Museum of St. Thomas's Hospital.

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powers of the absorbents, even to a degree capable of rupturing their coats; and, they also prove, that the absorbent vessels do not frequently terminate in veins, as formerly was supposed by many anatomists, though an instance of this kind has been narrated to me by Sir Astley, and it occurred in one of the groins of the body of a Lascar. This is, however, to be looked upon as an exception to the general rule.

3. In the *Philosophical Transactions* for the year 1800, (part i. p. 151,) Sir Astley Cooper has a paper entitled, "Observations on the Effects which take place from the destruction of the *Membrana Tympani* of the Ear." Many experiments had been made by anatomists, with the view of ascertaining the effects produced by a perforation of the *membrana tympani*; but as these had been made upon quadrupeds, little information was thereby obtained. Mr. Cheselden had contemplated performing the experiment upon the human subject, and a condemned criminal was selected for the operation; but an outcry was raised, and the intention was abandoned. Disease, however, of this part, points out the effects produced by an opening in the membrane. It is distinctly ascertained, that the membranes of both ears may have large apertures in them, and the powers of hearing be very little impaired.

4. In the *Philosophical Transactions* for 1801, (p. 435,) Sir Astley submitted some farther Observations on the subject, and gave an "Account of an Operation for the Removal of a particular species of Deafness." The operation proposed is that of puncturing the membrane in cases where deafness is found to proceed from an obstruction of the Eustachian tube, or, in other words, the passage from the throat to the internal ear. Several cases in which this operation had been performed, are detailed; but it is due to Sir Astley to say, that he has had the candour to admit the disappointment he has experienced upon this subject. Deafness from a closed Eustachian tube is rare: the relief obtained has been generally only temporary, the opening made into the tympanum often closes, and deafness returns: a constitutional as well as a local treatment is therefore required. The president and council of the Royal Society awarded to Sir Astley the Copley medal for these papers.

5. The principal work by which Sir Astley Cooper became known to the profession as an author, and by which his fame has been established, is that upon *Hernia*, or *Rupture*. No disease demands a more accurate knowledge of anatomy, or requires more minute dissection, for the understanding of its pathology. The changes which take place in the relative situation of parts, the alterations the structures undergo, and their vital importance, renders this disease a matter of most serious moment to the surgeon. The

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anatomy of the parts concerned in cases of hernia had been, with the exception of the masterly production of Gimbernat, a Spanish surgeon, almost neglected; and it is due to Sir Astley Cooper, to assign to him the merit of drawing the attention of the English surgeon more particularly to the important subject of hernia. Albinus had previously demonstrated the oblique passage of the spermatic cord through the abdominal parietes, but he had no idea of the upper ring, or of the inguinal canal, for a knowledge of which we are decidedly indebted to Sir Astley. Mr. Lawrence, whose authority upon this subject will be considered as most satisfactory, states, that "no complete description and accurate delineation of even the common kinds of hernia, as the inguinal, femoral, and umbilical, existed previously to the late excellent works of Camper, (published by S. T. Söemmering after the author's death,) Cooper, Scarpa, Hesselbach, Cloquet, and Langenbeck."

The first part of Sir Astley's work is confined to the "Anatomy and Surgical Treatment of Inguinal and Congenital Hernia," published in 1804; the second, published in 1807, to that of "Crural and Umbilical Hernia," &c. A second edition was published in 1827, with notes by Mr. Key. The varieties of hernia, and the modes necessary for the reduction of the several kinds, are only to be ascertained by a thorough knowledge of the anatomy of the parts concerned. Upon this point, the information contained in Sir Astley's book is precise and complete. He has well described the manner in which the hernial sac is formed, the mode in which it descends, and the several fasciæ constituting its coverings. The varieties to which it is occasionally subjected are not neglected by our author, and the causes likely to produce the displacement are ably enumerated. The remedial measures are fully detailed, and the mode of application of trusses dwelt upon with considerable ingenuity and precision. Too much carelessness upon this head prevails, even at the present day, notwithstanding the observations of Sir Astley Cooper, Mr. Lawrence, and others, who may justly be considered as our best authorities upon the subject. The practice of one of the largest hospitals in this metropolis, for a great number of years, (for Sir Astley was surgeon of Guy's from 1800 to 1826, and, since that period, consulting surgeon,) has given to Sir Astley extensive experience in the treatment of strangulated hernia. No surgeon, of modern times, has perhaps operated so frequently or so successfully, and this has arisen, in part, from a due regard to the instructions of his celebrated master, to whom the work is very appropriately dedicated, (the late Mr. Cline,) as to the danger of delay in operating upon cases of this description. *Mora non tuta—mora damnosa.* To estimate the value of Sir Astley's work, it must

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be carefully read; it is impossible to condense the subject in a manner adapted to these pages; but it may be safely said, that there is no one point in relation to hernia or its treatment, under all its varieties and conditions, which is not satisfactorily treated of in this publication. The description of fasciæ may, perhaps, by some be considered as too minute; dissections of this nature are extremely difficult, and often unsatisfactory, for it is not easy to trace fasciæ; and one evil resulting from this difficulty is, that the subject thereby appears really to be more complicated and obscure than in reality, upon operation on the living subject, it is found to be. I must, however, guard against any misconstruction upon this head, for I would not be understood to undervalue the researches of Sir Astley, or the perspicuous manner in which he has described the transverse fascia. The *transverse* fascia is of vital importance in obtaining a correct knowledge of inguinal hernia, and the mode in which the upper abdominal ring is formed; and it was never known until Sir Astley pointed it out, and demonstrated its relations. The discovery of this fascia may justly be considered as the most important addition made by Sir Astley to anatomical science. It is admitted to be so by all the best writers on the anatomy and surgery of hernia—Langenbach, Cloquet, Lawrence, S. Cooper, B. Cooper, Colles, Quain, &c. The *upper ring*, and the *inguinal canal*, (before unknown,) are formed by this structure, a precise acquaintance with which, is of the greatest consequence in the treatment of inguinal hernia, and without which it is impossible satisfactorily to understand it. Mr. Lawrence, admitting the discovery of the fascia transversalis to be entirely and exclusively due to the accurate anatomical investigations and patient research of Sir A. Cooper, suggests that it ought to be designated by the name of the discoverer. The manner also in which the femoral hernia is enclosed in a double sac, was *first* described by Sir A., and upon this is founded the knowledge we entertain of the proper method of applying the taxis, and reducing this common form of hernia in females. All the difficulty which has occurred in the operation for femoral hernia, has arisen from its not being understood that it was contained in two bags; the first formed of what Sir A. calls the fascia propria, or crural sheath, elongated so as to form a sac; and, secondly, the peritoneal bag, which is included in the former covering. When the fascia propria is opened, the intestine is supposed to be laid bare; but it is only the fat, and peritoneal bag, which are exposed, and which sac afterwards requires to be opened with the greatest care, as there is little fluid in it in the femoral hernia.

Sir Astley may also lay claim to the discovery of the mode of formation of the crural sheath, which receives the femoral artery, vein and absorbent

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vessels, with two septa separating the artery from the vein, and the vein from the absorbents. The forepart of this sheath, formed by the fascia transversalis, and its posterior part by the fascia iliaca. Gimbernat's ligament is placed between the sheath and the pubes; the anterior crural nerve upon the outer part of the sheath, Poupart's ligament before it, the psoas and iliacus muscles behind it.

As the epigastric artery, in inguinal hernia is in one species on the inner, and in the other on the outer side of the mouth of the sac, Sir Astley Cooper advised cutting upwards in inguinal hernia; and as the epigastric artery is placed on the outer part of the femoral hernia, he recommended the scratching the edge of the stricture with the knife, in the direction towards the umbilicus, which will be sure to avoid that artery or any other, if the fibres of the stricture are only slightly touched with the knife, and then further divided by pressure with the finger or the director.

The superficial fascia, which is an expansion of condensed fibrous structure, was described by Camper, but much more fully by Sir A. Cooper. He gave to it its name, and it is known by that denomination ever since. Cloquet describes it accurately, so does Quain; it is most distinctly seen in thin subjects.

6. In the Edinburgh Medical Journal for April, 1805, Sir A. Cooper has detailed a case of malformation of the urinary and genital organs, of a poor female admitted into St. Thomas's Hospital. Dissection showed the anterior portion of the bladder to be wanting, also the symphysis pubis, and the abdominal muscles situated above this part. The ureters entered the posterior part of the bladder, and they were increased to an enormous size, and formed at their extremities a kind of reservoir for the urine.

7. Sir Astley Cooper was an active promoter of the Medico-Chirurgical Society, and has contributed largely to their valuable transactions. The first paper in the first volume, consists of the relation of "A Case of Aneurism of the Carotid Artery." This case was treated by ligature upon the vessel, the *first* of the kind on record, and establishing a practice which has since been pursued, and successfully adopted. The first case was, however, unfortunate in its issue, inflammation of the aneurismal sac and the parts adjacent, having taken place about a fortnight after the operation, and by which the size of the tumour became so much increased, that by pressure on the pharynx and larynx, deglutition was prevented, and violent cough occasioned, to such a degree, as ultimately to impede respiration. The operation was performed under very disadvantageous circumstances in this case, from the length of time the disease had been permitted to exist, and the magnitude the tumour had acquired.

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8. In 1808, Sir Astley had another opportunity of tying the carotid artery; and the issue, by a complete success, well repaid the anxiety he had sustained. The case is related in the same volume as the preceding.

9. 10. In the second volume of the Transactions are also two papers, one a "Dissection of a Limb, on which the operation for popliteal aneurism had been performed;" the other, "Some Observations on Spina Bifida." The operation in the case of aneurism, had been performed by Sir Astley seven years previously to the death of the patient; and the limb which had been affected being injected, Sir Astley gives an account of the appearances of the blood-vessels consequent upon the operation. It points out the vessels which by anastomosis are chiefly employed in carrying on the circulation, when the main trunk has been obliterated, and is therefore both interesting and useful.

The observations on spina bifida are important in the practice of surgery. This disease, or rather malformation, consists of a deficiency of the spinous processes of the vertebræ by which the theca enclosing the spinal marrow distends and projects forth to form a tumour, any opening into which has been commonly considered as necessarily attended by fatal effects. Sir Astley Cooper is the first surgeon to whom we are indebted for the performance of an operation upon these cases, and in which success has followed his exertions. The treatment adopted has been either palliative or radical; the former consisting of pressure judiciously applied to the part, the latter an evacuation of the fluid contained in the sac, and subsequent pressure by which adhesion has been promoted. This is only applicable to cases where the deficiency of the spine is not considerable. The latter method is attended with great constitutional irritation, generally productive of convulsions. In several instances, Sir Astley has been completely successful in effecting a cure; but there are many cases in which all attempts at relief are useless—these are, when the case is connected with an unnatural enlargement of the head, and where hydrocephalus internus is conjoined with the malformation. If attempts be made in these instances, either by pressure or puncture, to palliate or radically to cure the disease, an accumulation of water will take place within the ventricles of the brain, and the event prove fatal. Where also the lower limbs are paralytic, or the bladder and rectum have lost their power of retention, or where the tumour has burst soon after birth—these are all cases in which the methods proposed by Sir Astley Cooper are inapplicable. It is due to the late Mr. Abernethy to state, that the mode of cure by occasional punctures discharging the fluid according to the frequency with which it accumulates, is founded upon the same principle as that recommended by this eminent man for the cure of

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psoas abscess. Sir Astley has not been unmindful of this circumstance in the account he has given of his cases. Sir Astley attributes the successful issue of the cases under his care to the employment of needles, and not the lancet, to discharge the fluid. The use of the former is not followed by the same irritation as the latter, and this circumstance has led to their application in other dropsies. Sir Astley has been so good as to give me the opportunity of seeing two of his cases, in one of which a truss is worn, and in the other no bandage whatever. Both patients are now active, healthy men. In one, Benjamin Little, aged thirty, a radical cure has been effected; the man is able to follow all his duties as a lighterman, and can row from London to Gravesend and back without suffering more than any other man in the same occupation. The skin is much thickened, and there is a retraction in the centre like to an umbilicus, by which its adhesion is firm upon the basis of the sacrum. In the other case—Sterney, aged twenty-eight—a partial adhesion only has been produced. With a truss similar to that for an exomphalos, he is capable of enduring considerable fatigue. He was the son of a butcher, and in the habit of riding many miles daily, meeting with various accidents, but no serious effect has ensued. When the truss is removed, the swelling becomes about the size of a small orange, and the man immediately feels an alarm, his limbs tremble, and he becomes confused. This is instantly removed by the reapplication of the truss. In this case the swelling was of a very considerable size; it was punctured fifty-two times. They are cases of the most interesting description. In my own practice, I regret to say these cases have not been attended with such successful results. I have in several instances adopted the plan recommended: but in all my cases convulsions ensued, and proved fatal. This will, I believe, occur in a very large proportion of the cases of this serious malformation. Sir Astley found that the cases were unsuccessful, if the skin was ulcerated over the tumour; for this is always connected with disease of the brain, and the children die of convulsions. Dr. Marcet made several analyses of the fluid in the cases of spina bifida, and it was found to correspond with that which is met with in the ventricles in cases of hydrocephalus internus. They are detailed in the second volume of the Transactions.

11, 12. The fourth volume contains two other papers by Sir Astley Cooper: the "History of a case of Premature Puberty," and "An Account of the Anastomosis of the Arteries at the Groin." The first occurred to a girl of four years and a half only, and is an interesting addition to the already numerous recorded cases of the kind; the latter paper may be regarded as a sequel to the account of the arterial distribution after the

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operation for popliteal aneurism, before noticed. The instances detailed in this paper were of individuals who had had the iliac artery tied, one of whom survived the operation a much longer time than the other; and the number of vessels for carrying on the circulation, it must be observed, was greater in the more recent of these cases. As time advances, the vessels gradually enlarge, and the circulation is capable of being maintained by fewer branches. Appended to this paper is an account of the tying of the iliac artery in two cases of aneurism, under very disadvantageous circumstances; but the cases proved successful.

13. In the eighth volume are, "Three Cases of Calculi removed from the Bladder without the use of cutting instruments." To Mr. Thomas we are indebted for first pointing out the readiness with which the female urethra will admit of dilatation; and, since the relation of his case in the first volume of the Transactions, numerous operations for lithotomy have been spared. The cases detailed by Sir Astley confirm this statement. Cutting for stone in the female, may henceforth be considered as an unnecessary operation.

14, 15. The eleventh volume contains an "Account of a case in which numerous (more than eighty) Calculi were extracted from the urinary bladder of the male without the employment of cutting instruments." Sir Astley has observed, (p. 357,) that when a great number of calculi are found in the bladder, the circumstance is generally attended with an enlargement of the prostate gland, and it depends upon a sacculus being formed in the bladder directly behind the enlarged gland. In these cases the bladder is rarely completely emptied of its contents, and the calculi crystallize from the urine retained in this sac. The number of calculi is sometimes very great—twenty or thirty, or more, are not unfrequently met with. Sir Astley mentions one case in which fifty-six were found, and another in which 142 were extracted. The instrument used by Sir Astley was a pair of forceps in the shape of a sound, the blades of which could be opened whilst in the bladder by means of a stilette. By these means, the operation for lithotomy has been avoided in the male. Sir Astley succeeded in extracting a stone weighing fifty-four grains, in the case of Sir William Bellingham, recorded in the twelfth volume of the Transactions.

16. In the twelfth volume is the relation of a case, the operation upon which I witnessed. It was of an enormous adipose tumour, situated upon the abdomen. The magnitude to which these preternatural growths will arrive, is almost inconceivable. In the present instance, the tumour, when removed, weighed 37lbs. 10oz., being rather more than one-fourth the weight of the entire man. It had been allowed to grow during forty years,

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the man being fifty-seven at the time of the operation. At its commencement it did not exceed the size of a pea, but had in sixteen years acquired the magnitude of a child's head; no inconvenience, however, beyond that arising from its size and weight, being sustained. At the time of the operation for its removal, it measured one yard and a quarter around its greatest circumference, and eighteen inches around its neck, extending, when he was sitting down, to his knees. It was removed in the most masterly manner, and in eight days the man was well enough to rise from his bed, and walk in the ward of the hospital. He perfectly recovered.

17. In 1818-20, a volume of *Surgical Essays* by Sir A. Cooper and Mr. Travers, made its appearance. Its object was to give to the profession and the public, the results of extensive practice, obtained in the hospitals of St. Thomas and Guy's. The intention of the work is well expressed in the preface.

"The variety which of necessity occurs in the practice of the surgeons—the facility afforded to them in their respective plans of treatment—the opportunities of improving the practice of medical surgery—of observing the results, general and comparative, of operations of every description—and especially of prosecuting inquiries into morbid anatomy, by prompt examination of the dead body, and of parts removed by operation—are advantages which, while they afford ample compensation for the labours of clinical research, would allow no pretext for indifference in those who, conscious of their value, were not influenced by an ardent desire to improve and impart them.

The volume is in two parts, and the communications of Sir A. Cooper consist of—1. On Dislocations. 2. Case of Ligature on the Aorta. 3. On Exostosis. And in the second part:—1. On Dislocations and on Fractures of the Hip and Knee-joint. 2. On Unnatural Apertures in the Urethra. 3. On Encysted Tumours.

On the subject of Dislocations, Sir Astley dwells with great propriety upon the necessity of a knowledge of anatomy, without which, it must be evident, the displacement of a bone cannot be understood, nor the proper means devised for its reduction. This, among other points, renders the study of the structure of the joints of very great importance. The symptoms attendant upon the different kinds of dislocation, the circumstances by which they are to be detected, the consequences of neglect in the reduction and the after-treatment, are all fully stated by our author. Dislocations are known to occur in some instances from mere relaxation. Sir Astley gives a notice of a curious case of this kind. It happened to a dancing-girl from the south of Europe, who, by great exertions from her earliest years, had produced such a relaxed condition of the ligaments of the knee-joints, that she had the power at pleasure of throwing the patellæ

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off the surfaces of the condyles of the thigh-bones. Disease, producing relaxation of the ligaments, is known also to give rise to dislocation. A paralytic state of the muscles of a joint will also occasion dislocation to be matter of easy occurrence. The chief cause of difficulty in the reduction of dislocations, is to be found in the muscles; the resistance afforded by them, is proportionate to the length of time the dislocation has existed. A slight force, applied in the earliest period after the accident, is sufficient to reduce a dislocation. A long continued but gradual extension is necessary in cases that have been allowed to remain unattended to for any length of time. Violence in the reduction of luxations, cannot be too much condemned; sound parts are injured by such injudicious measures, and increased resistance is called forth by such efforts. Relaxation must necessarily follow continued extension, and power over the action of the muscles will thus be obtained. The influence of the mind is another point of great consequence in aiding the reduction of dislocations. The muscles offering resistance to the reduction, may be overcome by directing the mind of the patient to other muscles; the action of the former being suspended, the object of the surgeon will often be instantaneously effected. Cases of the different dislocations, and the diagnostic symptoms by which the injuries are to be ascertained, are given in Sir Astley's paper; and plates are sub-joined to represent the various appearances, which will serve materially to assist the young surgeon in forming his judgment upon one of the most difficult, as well as most important objects of his practice.

The case of Ligature on the Aorta presents the boldest operation of modern surgery. The case was unsuccessful, but the life of the man upon whom it was performed was prolonged. It is an useful case in many points of view, and demonstrates the power of nature in the preservation of life in a most remarkable manner. A few years since, no one would have believed it possible to pass a ligature round the largest blood-vessel in the body, the main trunk by which the greater part of the frame derived its nutrient fluid, without occasioning death. The reverse of this has been shown by Sir Astley Cooper, under circumstances of peculiar interest:—Charles Hutson, a porter, thirty-eight years of age, was admitted into Guy's Hospital, April 9th, 1817, for a swelling in the left groin, which was pronounced to be an aneurism, though the pulsation in it was obscure. It had arisen from a blow he had received twelve months before, by falling against the corner of a chest. Soon after his admission, the swelling increased to double its size; it was much diffused, and large veins crossed its surface. The swelling had acquired such a magnitude, that, at this time, he thought it was not possible to have reached the common iliac artery without making

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an opening into the cavity of the peritoncum. Measures were, therefore, taken to endeavour to obliterate the artery, and diminish the size of the tumour, but without success. Sloughing and ulceration occurred, hæmorrhage succeeded, and his death seemed inevitable. Sir Astley endeavoured to reach the artery by an incision into the aneurismal sac; but he found only a chaos of broken coagula, and that the artery entered the sac above and quitted it below, without there being any intervening portion of vessel; and all attempts in this way to relieve the patient, were entirely out of the question. Under these circumstances, Sir Astley resolved upon the bold experiment of tying the aorta! To effect this, he made an incision three inches long into the linea alba, pierced the peritoneum, and passed his finger into the cavity of the abdomen, between the intestines to the spine, and there felt the aorta greatly enlarged, beating with excessive force. Scratching through the peritoneum by means of his finger-nail, he passed around and again through the peritoneum, so that his finger was placed under the vessel; then, by the aid of an aneurismal needle, he conveyed a single ligature to it, and, taking great care not to include any portion of intestine, he tied the thread. The condition of the patient immediately before and during the operation, was awful; the administration of opium and camphor was rendered necessary. The sensibility of the limb was imperfect; and upon Sir Astley placing his hand on the thigh, the man said he had touched his foot. He never regained the perfect sensibility of the limb; his extremities recovered their temperature; but the aneurismal limb was $87\frac{1}{2}$ degrees, whilst the other was 94 degrees. Sick-ness ensued on the following day, the pulse became weak and fluttering, he complained of pain over the whole body, but particularly of the head; the carotid arteries beat with great force, and he sunk, having survived the operation forty hours. Examination of the body presented no appearance of peritoneal inflammation. The aorta was found to have been tied about three-quarters of an inch above its bifurcation, and upon opening it, a clot of more than an inch in extent was seen to have sealed the vessel above the ligature; and below the bifurcation another of equal extent, occupying the right iliac artery; and the left had a third clot, which extended as far as the aneurism. The power of nature, therefore, in effecting this obliteration in the largest trunk in the body, was fully established, and this too in the short period of forty hours.*

Sir Astley had, previously to this operation, and since that time has, tied the aorta of different animals, more especially the dog, and these have recovered, as the preparations of anastomosis of this vessel shows in the

* The preparation is in the museum of St. Thomas's Hospital.

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collections of St. Thomas and Guy's hospitals. Sir A. proposes, in the event of a necessity again arising for tying the aorta, to operate in a different manner. He would make an incision through the muscles on the inner side of the anterior superior spinous process of the ilium, and a little above it, and then turning the peritoneum towards the opposite side of the body, detach with the finger its cellular connexion, and by this means reach the artery without opening the peritoneal cavity.

On the subject of exostosis, or a preternatural growth of bony matter, it has been shown to have two different seats; one in the periosteal, the other in the medullary texture. The nature of these tumours varies, being, according to Sir A., either cartilaginous or fungous. Every bone of the body is liable to this disease; but the thigh-bone is most frequently affected by it. The cartilaginous exostoses probably originate in a blow, or other injury inflicted on the part; the medullary appear to be connected with constitutional disorder, and frequently prove fatal in their consequences. Cutting off the supply of blood, by tying the arteries leading to these fungous excrescences, has not been attended with any beneficial effect, and much credit is due to the reports of cases by himself and Mr. Lucas, in which their attempts have been unavailing in this respect, as the publication of these will prevent others from adopting an unnecessary procedure; but the cartilaginous may be safely sawn off.

The paper on fractures of the neck of the thigh-bone, contrasts that accident with dislocation, and states the difference of opinion which exists as to the process employed by nature in the restoration of parts under such circumstances. The opinion expressed as to the general non-union of transverse fractures of the neck of the thigh-bone within the capsular ligament, has led to considerable discussion, which, however, has terminated by the exhibition of some preparations, manifestly showing the union of the bone by the deposition of true ossific matter. The discussion has been of much service; for young persons at least, affected by so severe an accident, will not be abandoned to their fate, but remedial measures will be attempted, to endeavour to procure ossific union. In a great majority of cases, however, these efforts will be unavailing, and the union will be only ligamentous. The accident rarely occurs but at an advanced period of life, when the power of reparation is feeble; and from the disposition of the arteries within the capsular ligament, as pointed out by Sir Astley, the union by bony matter is not likely to ensue. Sir Astley's opinion on this subject, is well expressed in the following passage.

“ In all the examinations which I have made of transverse fractures of the cervix femoris, entirely within the capsular ligament, I have never met with a bony union,

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two parts, the first of which (embracing those which are not to be considered as malignant,) only has yet appeared. Sir Astley has pointed out the great advantages to be derived from the examination of morbid structures, in forming a diagnosis of the disease, and adopting a proper mode of treatment. The breast is liable to almost all the complaints of other structures; but some are peculiar to this organ. The word "cancer" carries terror into the mind of every one: hence promises of cure have been always held out by the designing quack, and too often have the expectations of the ignorant and the timid been fatally disappointed: disease has been allowed to proceed until past all remedy, even by the knife; the results, therefore, of the experience of such a man as Sir A. Cooper, upon this point, are invaluable. Sir Astley has endeavoured to distinguish between those tumours which are the effect of acute inflammation, and those of a chronic kind; he has shown that some of the latter may be accompanied with specific action, and others not merely specific, but also malignant. How truly important are these investigations! satisfactory information upon which, can only be the result of extensive practice and attentive observation.

Of the first class of the acute kind is the milk abscess; of the chronic, the indolent swelling and abscess, and the lacteal tumour from obstruction of one of the lactiferous tubes. The second class is numerous: there are the hydatid, the chronic mammary tumour, the ossific, the adipose, the large and pendulous breast, the scrofulous, the irritable, and the ecchymosis of the breast. The malignant, Sir Astley arranges in two kinds; the scirrhus or cancerous, and the fungoid tubercle. The non-malignant diseases of the breast are fully described, cases given in illustration of them, and plates to demonstrate the constitution of their structure. In a few pages will be found a great variety of clinical facts and practical precepts. The distinction of the various species belonging to the several kinds of tumours is very ably drawn, and the profession must look forward with great anxiety to the completion of this important surgical work.

20. In 1830 Sir Astley Cooper published "*Observations on the Structure and Diseases of the Testis*," accompanied by ten plates, demonstrating the anatomy of the organ, and fourteen illustrations of the diseases to which it is liable. The anatomy of the testis is more distinctly shown by Sir A. than by any preceding anatomist, principally from the new and successful manner in which he has been in the habit of injecting the tubuli seminiferi with glue, or other coarse injection through the canals of the rete. This not only produces beautiful preparations, but also enables

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the organ to be more easily dissected, and less liable to injury than those made by quicksilver. Sir Astley possesses the most beautiful injections of the testis that were ever made.

The most novel and important points in the anatomy of this organ, and parts appertaining to it, are the existence of a membrane, which lines the tunica albuginea, and is reflected over each tubulus as the pia mater is upon the brain; and the dissection of the inguinal canal, which has already been noticed. Sir Astley has seen the testis to descend from thirteen to seventeen years of age, during the progress of puberty, and in some cases it has not been accomplished until twenty-one.

The diseases of the testis he divides into those which result from common inflammation, either acute or chronic, specific but non-malignant, and those which are specific and malignant. To discriminate between these is a matter of the highest importance, and is a knowledge only to be acquired by extensive observation. Sir Astley has minutely traced the various organic changes to which the testis is subject, and the examples illustrative of the pathology of the organ are to be seen and referred to in his private collection, and also in the museums of St. Thomas's and Guy's Hospital. By these inquiries, many an useless, or rather unnecessary, operation will be prevented. The chronic inflammation of the organ was formerly looked upon as a sarcocele, and extirpation was resorted to. The use of mercury in the majority of cases supplies the place of the knife, and removes all dread and apprehension from the mind of the sufferer. Many surgeons have given their aid to produce this alleviation of human misery; but Sir Astley must be regarded as the foremost in the rank of this distinguished corps. The diseases in Sir Astley's *first* division never require extirpation of the organ—those in the *second* (the non-malignant, but specific) but rarely (hydatids forms an exception); the specific and malignant leave no other resource. The practice, therefore, to be adopted is rendered simple; but it is founded upon the previous knowledge obtained of the diagnosis of the several diseases. Scrofula is a disease generally supposed not to affect the secretory glands—the testis offers an exception to this. Sir Astley details some cases, and gives also an account of the dissection of the morbid organ. The testis is rarely affected by syphilis—many surgeons doubt its existence entirely; Sir Astley feels confident that it does occur, and that this specific inflammation will only yield to a mercurial treatment.

Of the laws which influence and regulate morbid growths, we have little precise knowledge—all accurate histories, therefore, of fungous tumours are of importance. The different stages of fungoid diseases of the testis are well depicted by Sir Astley Cooper. He thinks it both local and consti-

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tutional. He has seen it in infancy, and he suspects it may partake of the scrofulous character. The constitutional nature of the disease is shown by its presence in different parts of the body. Too early extirpation of the disease cannot be performed; if it be allowed to continue any length of time, the effects will be most disastrous. Scirrhus testis is of rare occurrence; extirpation offers the only probable remedy.

The remainder of the work is upon diseases of the spermatic cord and the scrotum. Hydrocele in all its varieties is treated of, and a curious and interesting case of fungoid inflammation of the tunica vaginalis, treated by Sir Astley Cooper and Sir Benjamin Brodie. The chapters on hæmatocele, varicocele, and chimney-sweeper's cancer, will be studied by the surgical practitioner with great advantage.

21. Sir Astley Cooper published "The Anatomy of the Thymus Gland," in 1832. This work has resulted from frequent dissections of the fœtus, in the various stages of its growth, from the sixth week in utero-gestation, to the period of nine months, with the view of observing the descent of the testis. Sir Astley could not fail to remark in these instances, the changes in the size of the thymus gland, and the quantity of fluid discharged from it, when an incision is made into its substance. He has examined the structure of this gland, and the secretion produced by it. He has injected the vessels by which the produce is carried away, and finally inquired into the nature of the fluid itself, by which the use of the gland may be fairly estimated. Every anatomist is fully acquainted with the difficulties attending such an investigation, from the delicacy of the structure of this part; and reference in this, as in many other cases, to comparative anatomy, to illustrate its structure and functions, has been necessary. The calf and lamb have furnished this assistance to Sir Astley, and the gland in these animals he has been able readily to inject, and to dissect, and thus to show the relative situation of parts, to view the secreting structure, and to collect, in sufficient quantity, the secreted fluid for the purpose of analysis. The existence of this gland only in the fœtal and infantile state, unless when affected by disease, shows that it performs some function necessary to this early period of life, and not belonging to later years. Sir Astley first describes the gland in the fœtal calf, and distinguishes its thoracic and cervical portions, its organization as a conglomerate gland, united in its several parts by a loose cellular membrane, beneath which is a reticular tissue, which serves to more immediately connect the lobes to each other, and unite the different parts of their structure. In addition, however, to these bonds of union, there is a vessel of communication between the different lobes, formed of a mucous membrane

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internally, and a secretory structure more externally, and thus all the parts of the gland are bound together in general communication. A ligamentous structure serves further to strengthen the gland, and preserve its parts in union. The larger lobes of the gland are divisible into smaller ones, and these are found to contain a great quantity of a milky fluid. This structure is particularly described, the secreting cells displayed, and the reservoirs connected with them. The central vessel is in itself glandular. When the whole gland is unravelled, it gives the appearance of a chain of beads of irregular shapes. The arteries are very numerous, and are derived from the internal mammary, the common carotid, the superior thyroideal and the external carotid. The veins terminate principally into the internal mammary veins; but there is a vein peculiar to this gland, the *vena thymica*, which returns the blood into the internal jugular veins. The absorbent glands and vessels on the spinal portion of the thymus gland, are both large and numerous, and the vessels terminate in the jugular veins at their junction with the superior cava, by one or more orifices on each side. These have been named by Sir Astley the *thymic absorbent ducts*. The nerves are very minute.

The thymus gland, (or glands, for they may be divided into a right and left,) in the fœtus of between two and three months, is scarcely perceptible; at three months it increases in proportion to the relative magnitude of the fœtus, and grows in this proportion to the seventh month, when it rapidly increases in size, so that at nine months it weighs at least half an ounce. After birth, it increases, and continues large to the first year, when it begins to decrease; and generally three or four years before puberty, it entirely disappears as a gland, leaving traces only of a ligamentous or reticular structure.

Hewson considered the thymus gland as an appendage to the lymphatic glands, but Sir Astley shows the great dissimilarity of their structures. It is not necessary here to detail the opinions that previous physiologists have entertained of the office of the thymus gland; it is enough to notice the physiology as laid down by our author. The office of the thymus gland he conceives to be, to "prepare a chylous fluid well fitted for the fœtal growth and nourishment from the blood of the mother before the birth of the fœtus, and consequently before chyle is formed from food; and this process continues for a short time after birth, the quantity of fluid secreted from the thymus gradually declining, as that of chylicification becomes perfectly established."

Analysis of the fluid, made by Dr. Dowler, shows its composition to be of the following substances, placed in the order of their proportions:—

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“one hundred parts contain sixteen of solid matter; incipient fibrin; albumen; mucus and muco-extractive matter; salts, consisting chiefly of muriate and phosphate of potash; and phosphate of soda. Of phosphoric acid, a trace. The thymus gland, therefore, secretes a fluid having in its composition all the component parts of the blood:—albumen, fibrin, and particles; which latter, easily discovered by the microscope, are found to be of a white, not a red colour as in the blood.

I have enjoyed, by the kindness of Sir Astley, the opportunity of examining, in detail, a collection of preparations, amounting to not less than two hundred and forty specimens in his private museum, upon this subject; and it is but bare justice to add my testimony to their value, and the satisfaction they have afforded me, in demonstration of the intimate structure and particular use of the thymus gland.

In 1836, the first number of “Guy’s Hospital Reports” made its appearance, and to this work Sir Astley has lent his powerful aid. He has contributed :

22. “A Case of Femoral Aneurism, for which the external iliac artery was tied; with an Account of the Preparation of the Limb, dissected at the expiration of eighteen years.” A brief account of this case was published in the year 1813, in the fourth volume of the *Medico-Chirurgical Transactions*, the operation having been performed in 1808. The patient survived until 1826, and this paper shows the condition of the limb after death, the vessels having been injected, to demonstrate the manner in which the main trunk had been tied. Two excellent plates accompany this paper, and display the dilated state of the ileo-lumbar, gluteal, and ischiatic arteries. The internal pudic was also enlarged; but no direct communication with the femoral could be detected. This case affords a beautiful example of the power of nature in accommodating herself to the condition of parts, and of the provision so wisely and so wonderfully existing, to support the frame under apparently the most difficult circumstances.

23. “Account of the first successful Operation performed on the common Carotid Artery for Aneurism in 1808, with the post-mortem examination in 1821.” This patient, whose case has before been alluded to, died of a fit of apoplexy. The plate accompanying the account of the dissection exhibits the condition of the arteries at the basis of the brain, and is exceedingly interesting.

24. In Part 2, Dr. Hodgkin has given an account of an “Unusually-formed Placenta, and Imperfect Fœtus,” and Sir Astley Cooper has minutely examined into the structure of these productions. The placenta was divided into two unequal cavities, one of which contained a well-formed, the other

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an imperfect fœtus. The membranes surrounding both were distinct, but proceeded from the single placenta. The umbilical vein was, relatively to the size of the placenta of great magnitude. The funis of the perfect child had two umbilical arteries and one vein; that of the imperfect, only one umbilical artery and vein. A communication between the two fœtuses existed by means of a large branch of the umbilical vein, and there was also an anastomosis of the umbilical arteries. The consolidation of the placentæ of two children into one is of very rare occurrence, and on this head Sir Astley quotes Dr. Blundell, who had once a preparation showing it. Sir Astley has given a minute account of the dissection of the imperfect fœtus, and his opinion as to the mode in which it was nourished, viz. through the agency of the heart and vessels of the perfect child, for the imperfect one was without the most important organs in the circulating system.

25. In Part 3, Mr. T. W. King has published, "Observations on the Thyroid Gland;" and it appears from this paper, that Sir Astley had in 1826-27 made various examinations into the nature of the fluid secreted in this organ. Dr. B. G. Babington analysed it for Sir Astley, and found it to consist principally of albumen, but he also detected the presence of gelatine and mucus. Mr. King's inquiry into the structure of the gland corresponds with that of Sir Astley, though he was quite ignorant of the researches previously made by Sir Astley, and the experiments he had mentioned for many years in his anatomical lectures. They are of too elaborate a nature to admit of analysis in this place.

26. "Some Experiments and Observations on Tying the Carotid and Vertebral Arteries, and the Pneumo-Gastric, Phrenic, and Sympathetic Nerves." The power of the system in establishing an abundant and competent circulation by means of anastomosing vessels, when the main trunk is rendered impervious, either by disease or from the application of a ligature, has been frequently demonstrated in the cases previously noticed in this memoir, as well as by the repeated observations of several surgeons, and the experiments made upon living animals. It was not, however, sufficient, in the mind of Sir Astley, to establish this fact, to show that the circulation through the iliac arteries could be prevented by an aneurism of the aorta above the bifurcation—that the external and the internal iliacs could be safely tied, as in the cases of Mr. Abernethy, Sir Astley Cooper, and Mr. Guthrie, on the former vessels, and of Mr. Stevens on the latter; but it required further experiments, in his opinion, to demonstrate the intimate union between the functions immediately essential to life, to display the connexion between the brain and other organs, and the necessity which exists for a due supply of arterial blood to maintain cerebral action. With

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this view, Sir Astley has reported various experiments made by him upon different animals, illustrating the effects produced by tying the vertebral and carotid arteries in the dog and the rabbit, and placing ligatures also upon the pneumo-gastric, phrenic, and grand sympathetic nerves. The details of these several operations cannot here be given, they must be carefully perused; but the inference to be drawn from them may be thus stated. The carotids appear in these animals to serve rather for the supply of blood to the external parts of the head than to the brain itself, and ligatures upon them do not produce such serious results as upon the vertebral arteries. These are more important as regards the brain and its functions. Compression upon the carotids and vertebral arteries at the same moment destroys the nervous functions immediately. This is effected by the application of the thumbs to both sides of the neck, below the sixth vertebra, (the trachea remaining quite free from pressure,) when respiration entirely ceases, with the exception of a few convulsive gasps. I have witnessed this experiment, and it is very striking in its character: pressure for one minute entirely destroys the animal, without the infliction of pain—if for a shorter time, (a rabbit being the subject of the experiment,) the animal speedily recovers, and from a state which strongly resembles intoxication. There is a loss of voluntary power, and the animal is unable to direct the action of his muscles to any given point, or in any certain course. The experiments of Sir Astley on the pneumo-gastric nerves are important, and show that they assist in the support of the function of the lungs, by contributing to the changing of the venous into arterial blood, and that they are also necessary to the act of deglutition. In his experiments of applying ligatures, and of dividing the phrenic nerves, he produced asthma of the most determined character, and death in less than half an hour.

27. In February 1836, Sir Astley, in the course of his experiments on the compression of the carotid and vertebral arteries, found in the rabbit, and afterwards in the guinea-pig and ferret, a superior laryngeal ganglion. The superior laryngeal nerve is distributed almost entirely on the mucous membrane lining the larynx, and gives to that organ its extreme sensibility. The position of the ganglion, Mr. E. Cock has shown varies in different animals, in accordance with the point at which the nerve is given off from the pneumo-gastric trunk. Sir Astley has been so kind as to dissect, and show me this ganglion in the rabbit; and the particulars relating to it, in this and other animals, are ably stated by Mr. E. Cock, in the fifth number of the Guy's Hospital Reports.

28. In the sixth number of the same work, Sir Astley has printed a paper "On Spermatocoele, or Varicocele of the Spermatic Cord," a disease

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of frequent occurrence. Among the causes enumerated by Sir A. as particularly conducive to this affection, he mentions the injudicious use of belts around the body; promotive of this, as well as other diseases for which they are most absurdly recommended. The diagnostic marks of this affection are clearly stated, and the treatment for those cases in which the pain is great, consists of the removal of a portion of the scrotum, by which a diminution of the size of the veins of the spermatic cord is effected. Several cases are related, in which this mode has been followed with great relief, and it can be done with perfect safety.

29. One other work only remains to be mentioned: "The Lectures on the Principles and Practice of Surgery." I have already noticed the talents of Sir Astley as a lecturer, and endeavoured to depict him in that character. I have not overdrawn the portrait. I feel that I have not done justice to his merits, and if any thing need be brought forward to prove the truth of this remark, it would be afforded in the statement that various editions of his lectures have been published by Jones, by Syder, in the *Lancet*, and by Mr. F. Tyrrell, the surgeon to St. Thomas's Hospital. The latter edition has been corrected by the author, and must, therefore, be looked upon as the most authentic; but it remains an unfinished work, three volumes only are published, the first in 1824, the second in 1825, and the third in 1827. It is to be hoped that Mr. Tyrrell will shortly be able to complete the series. To attempt an analysis of a course of lectures, is out of the question; they ought to be in the library of every surgeon, and they cannot be too often referred to, for they contain a most astonishing quantity of facts, the produce of most extended observation and practice.

Among the numerous improvements in surgical science introduced by Sir A. Cooper, one ought in particular to be mentioned, as it has been extensively employed, and saved great pain, inconvenience, and danger. I mean the operation of puncturing the urethra instead of the bladder, in cases of retention of urine arising from impermeable stricture. I have seen Sir A. do this in many cases, and Mr. Travers assures me, that as far back as the time of his apprenticeship to Sir Astley, he witnessed its performance even with his simple pocket-lancet. It has since been done by all surgeons of eminence.

The limit prescribed to these memoirs has been, in this instance, already much exceeded; the labours of the distinguished individual, whose professional character and works have been under review, have demanded it. The tribute of applause, nay, of the highest praise, is due to such splendid exertions; but what language can sufficiently express the admiration the profession must feel of the manner in which Sir Astley is now closing his

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career? not by revelling in inglorious ease, or in the enjoyment of luxuries which a large fortune might readily afford him; but by employing, in a manner more laborious than any other individual in the profession, the whole of his time in anatomical and physiological inquiries—in bringing up the results of his practice, and in leaving to posterity a legacy of imperishable value. Sir Astley has studied the book of nature—he has been one of her most vigilant inspectors—he has traced her in every fibre, and explored her in every cell, and he has recorded the glorious products of his labours. The fruits of these will be the advancement of medical and surgical knowledge, and a mitigation of the sufferings of his fellow-creatures. This reflection must be his reward here. Upon the decision of posterity he may safely rely, and say with the poet,

“Time is the judge; time has nor friend nor foe;
False fame must wither, and the true must grow.”

YOUNG.



James O'Connell

JAMES COPLAND, M.D. F.R.S.

“Qui omnium rerum atque artium, rationem naturamque comprehenderit.”

CICERO.

THE Practice of Medicine may very properly be divided into two branches : 1st, That which relates to the preservation of health, and the consequent prolongation of life ; and, 2nd, The cure of diseases. These are the objects of the physician—to excel in them, we have the authority of Dr. Gregory for saying, that “a greater compass of learning is necessary than in any other profession.” Dr. Thomas Young says, “There is no study more difficult than that of physic: it exceeds, as a science, the comprehension of the human mind.” And again, “Physic is one of those departments in which there is frequent necessity for the exercise of an incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the simple combination of all that can be taught by precept.” Hence its distinguished professors have been regarded with respect and veneration in all ages. It demands the possession of a liberal education and accomplishments, and affords the most abundant opportunities for the exercise of humanity and all the kindlier feelings of our nature. It has been well described as the duty of a physician “to take every man, who entrusts himself to his care, as he is, with all his failings, and to treat him in such a manner as to obtain his confidence and to fulfil his wishes. Men of all classes and ranks of life, of all dispositions, capacities, characters, and opinions—in every imaginable situation, of every age, constitution, and temper—have equal claims to his assistance and his attention. And the same authority (Vogel) declares, that “perhaps there is no science which requires so penetrating an intellect, so much talent and genius, and so much force of mind, so much acuteness and memory, as the science of medicine. For the full attainment of its proper and ultimate object, it requires also indispensably the possession of stability of judgment, rapidity of decision, and immovable firmness and presence of mind; readiness

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of recollection, coolness, flexibility of temper, elegance and obsequiousness of manners, and a profound knowledge of mankind, and of the secret recesses of the human heart." It would, perhaps, be a difficult, and it would certainly be an invidious task, to attempt to name any physician more fully qualified for the exercise of his profession than the respected individual whose name stands at the head of this memoir.

Tiedemann has justly remarked, in his "*Physiologie des Menschen*," that there are many physicians who are excellent theorists, but who never become skilful practitioners; for, with all their accumulated information, they know not how to recognize the individualities of a case, nor to reduce the symptoms to any general rule—such, says he, are all merely book-men, who have acquired no skill in the sick room. On the other hand, there are physicians who treat all cases after the analogy of previous ones, and the results of their experience in general, and employ, without being able to give any reason whatever for so doing, certain remedies which they may have used on some former occasion with advantage. Such are the sheer empirics, the routine men, the despisers of all theory, and the searchers after and triers of every new remedy proposed, by those, at least, of the same school. The combination of these two classes, so forcibly drawn by the celebrated German physiologist and physician, can alone form the truly scientific practitioner, for every case has, in some degree or other, something peculiar belonging to it, arising, probably, from difference of age, sex, constitution, habits of life, &c., and therefore requiring in its mode of treatment a modification of the means to be employed; which, however, are based upon a general principle applicable to the class of disorders to which it may be allied.

DR. JAMES COPLAND, the contemplation of whose character and talents have given rise to the preceding remarks, is a native of the Orkney Islands, and was born in November, 1791. He is the eldest of nine children. His father having removed to the island of Noss in Zetland, well known for its remarkable natural scenery, he was placed, at nine years of age, at a school in Lerwick, in the family of the then clergyman of that town. He continued to reside there until he was fourteen, when he was removed to an adjoining clergyman's, where he remained two years. At the age of sixteen, his father took him to Edinburgh, and in November, 1807, he commenced his studies at the university of that city. He continued to study during the usual sessions, in the literary, mathematical, and philosophical classes, preparatory to his intended entry upon the study of divinity. But this not being in accordance with his own inclination, he chose the profession of medicine. During this preliminary part of his education, he studied

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under, and became acquainted with, Professors D. Stewart, Leslie, Playfair, Brown, and Ritchie, and acquired a taste for metaphysics, occasionally afterwards indulged in, when he became editor of the *London Medical Repository*, and in his notes to *Richerand's Physiology*. Previously to his entering upon the study of medicine, and during the college vacations, he sometimes visited the Zetland Isles. The Rev. Dr. Fleming, the able author of several works on physiology and natural history, was then minister of the parish in which his father resided, and was a frequent visiter at the house of the latter. He thus acquired a taste for natural history and geology, to the cultivation of which these remote isles are remarkably favourable. Entering upon the study of medicine, his attention was entirely devoted to the acquisition of those departments of science upon which medicine is more immediately based. At the commencement of 1815 he wrote his thesis, and the other Latin exercises required at that time for a degree in medicine. He did not, in these exercises, confine himself to the usual limits, but in all of them he entered fully into the doctrines to which they more particularly referred, and proposed views which were then novel, but which have since been more generally adopted. The chief of these are—the origin of inflammation in lesion of the nerves supplying the capillary vessels; that rheumatism is essentially a disease of the nervous system, the vascular disturbance, general or local, being consecutive and contingent; that increased function of the liver is often consequent upon impaired function of the lungs; and that, whilst high ranges of temperature and humidity of the air diminish the production of carbonic acid in respiration, they increase the secretion of bile, and consequently bilious disorders, in intertropical climates, and in warm seasons in temperate countries, &c.; owing to the changes produced in the blood by respiration being imperfect or insufficient.

Having attracted the notice of the professors by his examination and exercises, and taken his Doctor's degree, he came to London in August, 1815, with the intention of seeing the practice of the London Hospitals. But, after the devoted attention he had paid for two years to the medical and clinical practice in the Edinburgh Infirmary, he found little to attract him in the medical department of the London hospitals at that time. In surgery, however, it was different, and to this he paid considerable attention.

Tired of an inactive life in London, and anxious to enter upon some enterprise or undertaking, but possessing inadequate means and interest,—having lived eighteen months in the metropolis without employment, without friends, and with very few acquaintances,—he was offered a medical appoint-

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ment to the settlements on the Gold Coast, belonging to the late African Company. Various considerations induced him to entertain the proposal, particularly a desire of becoming practically acquainted with the diseases of warm climates, and of visiting those parts of Africa which seemed most likely to afford opportunities of entering on inland discovery. Confiding in his robust constitution, his then spare habit of body, and being both abstemious and temperate, with a great flow of animal spirits, he anticipated no risk from the pestilential climate of the western coast. With the offer of the above appointment, but with the intention of not accepting it, or of not being fettered by it, until he should arrive at the Company's head-quarters, when he might be better able to judge of its duties, &c., he took his passage at the commencement of 1817, in a vessel proceeding to Goree, the Senegal, and Gambia, at each of which places he remained a few days. He next visited Sierra Leone, where he resided two or three weeks, and saw, with the medical men of the settlement, a number of cases of the prevailing diseases.

From this place he took his passage in a ship which was to proceed along the coast to trade with the natives. But the vessel had been hardly out of sight of Sierra Leone, when fever made its appearance, and thirteen or fourteen of the sailors (about three-fourths of the crew,) were soon attacked by it. The vessel was also, at this time, dismasted by a most violent tornado. In this emergency, he devoted his attention to the sick men, and, with the aid of the captain's ill-provided medicine-chest, he succeeded in restoring them to health.* Having landed soon afterwards from this vessel, Dr. Copland proceeded along the coast through various savage tribes, sometimes by land, occasionally in canoes, and at other times in small trading vessels, and took every opportunity of visiting the chief places and native towns. After several risks and detentions, he at length arrived at the European settlements on the Gold Coast, and resided some months at the principal British fort—Cape Coast Castle. Various circumstances, and particularly the great difficulties placed in the way of inland research, afterwards induced him to return to Europe. In order to obtain some information of the countries bordering on this part of the western coast, which extends eastward and southward from Cape Coast Castle, to the Gulf or Bight of Benin, he took his passage to England in a

* In the memoranda kindly furnished to me by Dr. Copland, he states, that during his dangerous excursions in this quarter, there was not a merchant or trading vessel of the very many which he saw or heard of, that was provided with a surgeon; although he believes that the number of seamen who return from this part of the world, does not average one-third of those who proceed thither.

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trading vessel, proceeding in the first instance to that part of the coast. After a most hazardous and tempestuous voyage, he arrived in England early in 1818. He afterwards proceeded to France and Germany, with the view of observing the practice of medicine in those countries. He remained abroad the greater part of that and the following year; and early in 1820 he returned to London, took a house at Walworth, and became a licentiate of the Royal College of Physicians. In that year he commenced writing on various medical subjects, and communicated papers on the Medical Topography of the western coast of Africa, on the yellow fever, and on rabies, to the Quarterly Journal of Foreign Medicine. In the same year he became a member of the London Medical Society, and co-operated with some others in establishing the South London Dispensary, for the poor of the Lambeth, Walworth, and Kennington districts. He continued physician to this charity for two years, when he resigned. In this year (1820) he was elected Physician to the Dispensary, now the Royal Infirmary, for the diseases of children. About this time he offered his services, through Sir James M'Grigor, Bart., to the government, to investigate the origin and nature of the epidemic yellow fever, that had then appeared in the south of Spain, stipulating for no reward but the protection of the government during his mission, and his expenses. But ministers had already directed Dr. Jackson, a declared partisan of non-infection, to proceed on this mission. Dr. Copland considered himself well fitted for the investigation, both by education, and by his previous researches into the nature of the diseases prevalent in the settlements of Africa. He was, besides, entirely unbiassed, and was no partisan of either doctrine of the origin of yellow fever.

In 1821, Dr. Copland published a case of chorea, consequent upon rheumatic carditis, terminating in universal paralysis, in which he narrowly inspected the body after death, and showed the dependence of the disease, in this case, upon chronic inflammation of the membranes of the spinal chord, and effusion within the theca vertebralis. The case assists us towards obtaining a knowledge of the pathology of this singular affection. Its complication with rheumatism, rheumatic pericarditis, &c. was first pointed out by Dr. Copland; and the researches of Dr. Prichard and Dr. Roeser have served to confirm his observations. Dr. C. has treated of the subject at length in his Dictionary of Practical Medicine. He also published, in the London Medical Repository, and London Medical and Physical Journal, of this year, *Memoirs on Human Rumination*, and on *Chronic Inflammation of the Peritoneum*. The former communication is singular and interesting. It is a well-authenticated and ably related

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case of this peculiar faculty occurring in the human species. The description of the case, and the minute detail of the feelings of the subject of it, together with the different steps of the process, will be read with much interest. References are given by Dr. Copland to authorities for similar instances. In the latter paper, two cases are detailed, and exhibit the disease arrived at the last stage of structural derangement. Chronic peritonitis has only been looked upon as an idiopathic disease in our own times, although the ancient physicians, Platerus, Fernelius, Ballonius, Riverius, and others, describe it separately as a primary disease, or in conjunction with enteritis. Dr. Copland attributes to Bichat the merit of having, in the present day, distinctly adverted to the chronic disease of the peritoneum, and it forms one of the results of his classification of the membranes. (See his *Anatomie Générale*, vol. ii. p. 558.) To the late Dr. Pemberton, however, we are indebted for the first account of it in this country; but he makes no allusion to the tuberculated condition described by Bichat, and afterwards so ably demonstrated by Dr. Baron, as characteristic of the disease. Whether this condition be constant or not, will, however, admit of doubt, since neither Dr. Copland nor M. Broussais, have been able to detect its presence, although anxiously making research for it. Dr. Copland is not disposed to agree with Dr. Baron, either as to the seat of these tubercles, or their mode of production. He does not conceive that the granulated and tuberculated structure observed in the chronic disease of the peritoneum, derives its origin from hydatids, or from dilated lymphatics, or from dilatation of the capillary blood-vessels; on the contrary, he believes that the diseased structure may be traced to, and may be seated in the cellular tissue, immediately subjacent to, and connecting this membrane to the adjoining parts; and that it is produced in that texture by the chronically inflamed state of the capillary vessels, vessels opening in that tissue, secreting a viscid lymph, which, from its state of fluidity, and the more compact nature of this texture immediately underneath the peritoneum, cannot flow far from the vessels from which it issues, nor communicate with the similar fluid in its vicinity; the peritoneum is, therefore, he says, elevated into a tuberculous appearance, and as these increase in magnitude, the cellular substance intervening between the minute collections of viscid fluid, becomes condensed into cysts; and hence, as the contents accumulate, any communication between them becomes more difficult.

He also published experiments and practical observations on the operation of terebinthinate medicines, and on their use in disease. He also wrote papers on inflammation, and various reviews. At this time he was

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applied to by the proprietors of the London Medical Repository, to become Editor of that Journal. His reviews were generally critical and severe. Shortly after the beginning of his editorial duties, he was requested by the council of the Medical Society to give the annual oration at the anniversary on the 8th of March, and he addressed the Society on a most comprehensive subject, namely, *A general view of the Grand Agents by which inanimate matter and organized bodies are governed*. He first considered the agent or principle in nature which governs inanimate matter, and endeavoured to show that attraction or gravitation, chemical affinity, combustion, crystallization, magnetism, light and heat, both as existing in the solar rays, and as otherwise produced—in short, that all the phenomena of the inorganized world, and of the solar system, may be ascribed to the agency of electricity. He next took a view of the agent or principle which governs animate matter; showed that the principles which govern inorganized matter, are alone totally inadequate to explain either the primary production of the organized creation, or the continuation of its various tribes, and argued that *vitality* is a first principle in nature: that its existence and association with matter, were established in its various states and manifestations, soon after the principle or agent, which governs inanimate matter, was called into being; and that it controls the affinities of matter brought within the sphere of its operation, giving rise to combinations and results different from those which these affinities dispose matter to assume. It is to be regretted that Dr. C. did not publish this ingenious production; but portions of it appeared subsequently, in his appendix to M. Richerand's Elements of Physiology. Having had the opportunity of seeing the original manuscript, I find in it views which subsequent researches would appear to warrant, and opinions which have much more recently been put forth as original.—In this oration, Dr. Copland referred the functions, which are *strictly vital*, and which all organized bodies evince, to the influence of a ganglial nervous system, existing in some one form or another, and exerted upon circulating vessels or parts containing fluids capable of affording nourishment. He afterwards took a view of the higher manifestations of life, as displayed in the more perfect animals, and most remarkably in man himself; and argued that the brain is the organ of mind, and the instrument of the mental manifestations; whilst the cerebellum, medulla oblongata, and spinal chord, are most intimately related to, or possess a complete control over, sensation and motion. He concluded his address with a view of the higher faculties of mind, as distinguishing man from the lower animals; argued against the doctrine of a continuous or uninterrupted rise of mental power, from the lowest reptile to the human species; and contended that

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reason, or the faculty which man possesses of obtaining a most extensive range of ideas, from reflecting upon the operations of mind itself, places him far above all other animals; that reflection, or pure intellection, is truly mind—is the immortal part of the human constitution.

The chief articles written by Dr. Copland in the first volume of the Medical Repository, were, 1. *On the Pathology of Fever, with an historical view of opinions on the subject.* 2. *On Life and Organization.* 3. *On Artificial Eruptions in the Cure of Disease.* 4. *On Intestinal Worms.* 5. *Outlines of a Series of Researches into the Anatomy, Physiology, and Pathology of the Ganglionic Nervous System.* In this last memoir, he was the first who applied the independent functions of this system to pathology. Viewing the influence of this system upon the circulating and secreting organs to be intimately allied to, if not productive of, vital phenomena, he founded on it a pathological classification of diseases, commencing with primary and simple disorders, advancing through more complicated and consecutive diseases, and terminating with organic lesions.

In 1822, Dr. Copland removed from Walworth to Jermyn-street, and continued to conduct the Medical Repository with great assiduity, publishing each half year historical sketches of the progress of medical knowledge in this country, on the continent of Europe, and in America. At the commencement of 1823, he was elected Consulting Physician to Queen Charlotte's Lying-in Hospital, through the influence of H.R.H. the Duke of Sussex, the President of the Institution, his name having been mentioned to His Royal Highness by the writer of this sketch; whose knowledge of him, at that time, was chiefly derived from his writings. The prevalence of infectious or malignant puerperal fever in this institution was, about this time, so great, as occasionally to require the wards to be shut for the purpose of cleansing. His plan of cure, by the free employment of calomel, opium, camphor, and turpentine, proved remarkably successful.

In this and the following years, he was engaged not only in editing the Medical Repository, but also in furnishing reviews of scientific works in monthly and quarterly publications, and in revising, after the latest French edition, M. Richerand's Elements of Physiology, and in adding notes with a copious appendix to that work.

In the notes and appendix to M. Richerand's Elements of Physiology, the first edition of which appeared early in 1824, Dr. Copland developed his views as to the connections and functions of the ganglial nervous system, conformably with what he had already published in the Medical Repository. He showed the influence of this system upon the blood, and upon the production of the various forms of inflammation, and first sug-

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gested the idea that, instead of stating the nerves to originate in the large nervous masses, it would be conformable with the developement of the embryo and textures, and with comparative anatomy, to view them as arising in the membranes, structures, and organs, which they are generally said to supply. In this work also, he exhibited a new arrangement and view of the nervous functions and mental manifestations, commencing with those which are instinctive and most generally diffused through animal creation, and terminating with those which are purely intellectual and reflective. Besides these, he advanced novel views on other subjects, particularly as to respiration, and the changes thereby induced in the blood, the developement of the tissues, and the sympathetic actions. He arranged the sympathies into the *direct* and *reflex*; the former taking place directly through the medium of continuous membranes, and nervous communication; the latter, or the "*Reflex*," depending on the excitation conveyed to the cerebro-spinal centres, and thence reflected to related organs or parts. Thus the "Reflex Sympathies" of Dr. Copland are identical with the reflex functions of Dr. M. Hall.

During the period in which Dr. Copland conducted the Medical Repository, he endeavoured to support the character of the profession, by exposing whatever he considered calculated to debase it. He attacked the Scottish Universities, which conferred degrees upon the recommendation of other physicians, or rather by purchase,—a practice which they soon afterwards relinquished; and he exposed the voluntary degradation of Surgeons and Licentiates of the Company of Apothecaries, who kept open shops, and became the agents of quacks in selling their nostrums.

In 1825, Dr. Copland projected an "Encyclopediac Dictionary of the Medical Sciences," and drew up a prospectus of the undertaking. In this he was to have been assisted by his friend Dr. Dunglison, now of the United States, and by the late Dr. Gordon Smith; and the work was actually agreed upon by Messrs. Underwood, medical publishers, when the panic of this period caused them to relinquish it. In the winter of 1825 and 1826 he lectured on the principles and practice of medicine, and continued his lectures the two following sessions at the medical school in Little Dean-street, which had been built by the late Dr. Armstrong. He relinquished the editorship of the London Medical Repository at the end of 1826, having conducted that work for five years, and having published in it many articles, containing valuable practical opinions, as well as evincing much literary research. Amongst these may be particularized a series of articles on the *Materia Medica*, in which the use of camphor in disease is most fully and practically considered, and in which the cold affusion on the

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head was first recommended for the recovery of persons poisoned by prussic acid, or by substances containing it.

In 1828 and 1829, Dr. Copland contemplated a Dictionary of the Medical Sciences; and so zealous was he in his endeavours to accomplish this, that he drew up a very full and detailed prospectus of the work, exhibiting a view of the manner in which he proposed that the different departments of medicine should be discussed, and had it printed for private circulation. Messrs. Baldwin and Cradock agreed with Dr. Copland to publish the work; but whilst he was engaged in making his arrangements and in procuring contributors, his intentions were frustrated by their refusing to proceed with the undertaking.

Some time after this disappointment, he found that a "Cyclopædia of Practical Medicine," comprising only the practice of medicine, morbid anatomy, general therapeutics, and medical jurisprudence, was about to be commenced. It was, therefore, with no small pleasure that he undertook the offer made to him by Messrs. Longman and Co., at the end of 1830, to write a "Dictionary of Practical Medicine," and, single-handed, to contest the field with the numerous editors and contributors to the Cyclopædia of Practical Medicine.

To compile a dictionary of medical science is an herculean task—*magnæ molis opus*—to any association of men; but to be the production of one individual, is a most extraordinary undertaking. Dr. Copland has attempted this; and five parts being now published, there is no difficulty in estimating its value, and forming an opinion as to the ability of the author of the work. Such a work requires a union of industry and sound judgment, and a capability of selecting and condensing all that is valuable in medical science. It is not too much to say, that Dr. Copland has, by a diligence of research, an extent of learning, and a clearness in detail, produced in his "Dictionary of Practical Medicine" a complete body of medical literature, and an imperishable monument of his zeal and ability. Some complaint has been raised at the slow manner in which the work proceeds; but Lord Bacon tells us, that "affected despatch is one of the most dangerous things to business that can be;" and he sagaciously adds, that "we are not to measure despatch by the times of sitting, but by the advancement of the business." And, in another place he says, "Above all things, order and distribution, and singling out of parts, is the life of despatch; so as the distribution be not too subtle." Order, according to Sir William Temple, "is the effect of thought, and cause of all good productions;" and that which cannot be done often, must be long in doing:

Quod sæpe fieri non potest, fiet diu.—SENECA.

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Without order, the multiplicity of observations in the science of medicine must accumulate in a manner calculated to confuse the mind, and defy all useful deduction. Collected and arranged together, they form a system of instruction, and depict the condition of the science. The progress of research will thus be made evident, and future facts may be engrafted upon it with ease and facility.

The French physicians and surgeons have the merit of setting the example in the production of dictionaries containing a real body of medical science. How such a work can be best executed—whether by an associated number of professional men, or by a single individual, remains to be proved. There are advantages and disadvantages—much may be said upon both sides: on the one hand, you have the collected reading and experience of a number of individuals, but also the consequent disagreement and clashing of opinions that in so conjectural a science as medicine must necessarily occur; and, on the other hand, you have the results carefully obtained by one individual who embodies the whole into a system, and presents the entire science under one point of view, subject, however, to the occasional embarrassment arising from the introduction of the author's speculative opinions. If an estimate of the comparative merits of these modes is, however, to be formed from the specimens of Dr. Copland's work now before the public, the palm must most unquestionably be yielded to him, for condensation without sacrifice of perspicuity appears to be the principle upon which this extraordinary literary labour has been established, and the references to the authorities cited are most faithfully and most honourably recorded at the conclusion of each separate article. Dr. Copland may indeed be said to have "a wonderful talent for packing thought close, and rendering it portable." Analysis of such a work is entirely out of the question, nor is it easy to convey to those who have not seen the "*Cyclopædia Medica*," as a justly celebrated physician and journalist has styled it, a correct idea of the nature of its composition.

In 1831 Dr. Copland had composed his article on cholera for the Dictionary, and in 1832 he was induced to publish it separately in a small volume, by the appearance of the disease in the north of England. He had paid more than ordinary attention to the subject of the pestilential cholera, from its irruption in Bengal to the time of its appearance in London. He had made himself acquainted with all the principal works that had been written upon it, and he had also examined the reports and documents sent from 1817 to 1827 by the medical boards and superintending surgeons of the three Indian presidencies to the board of Directors of the Hon. East India Company. Dr. Copland does not look upon the disease as the com-



Henry Hallford

SIR HENRY HALFORD, BART., G.C.H.

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS.

—————“ Me they sent
To wait on pain, and silent arts to urge,
Inglorious, not ignoble ; if my cares
To such as languish on a grievous bed,
Ease, and the sweet forgetfulness of ill,
Conciliate.”

AKENSIDE.

THE study of the science of medicine cannot but be regarded as one of the noblest and most interesting pursuits that can engage the attention of the human mind. To contemplate the wonders of creation—to behold them as exhibited in the intricate structure and extraordinary mechanism of the human frame—to mark the changes which ensue at the various periods of life, and under a variety of circumstances—to render, by a diligent study of these phenomena, nature itself tributary to the comfort and happiness of mankind—to relieve the pains of suffering humanity—to restore the bloom to the cheek of faded beauty—to dispel the gloom of disordered intellect—and to assuage the agonies of expiring nature—these are among the objects and the duties of the physician. The faculty of accomplishing these falls to the lot of comparatively but few, and requires the possession of varied and powerful talent. The union of literary taste and graceful scholarship with professional knowledge, which can never fail of affording delight and exciting interest, is strongly evidenced in the writings of the subject of the present memoir.

SIR HENRY HALFORD was born on the 2nd of October, 1766, and is the son of Dr. James Vaughan, Physician to the Leicester Infirmary, known to the public and the profession as an able practitioner, and the author of some “Observations on Hydrophobia ; on the Cæsarean Section ; and on the Effects of Cantharides in Paralytic Affections.” Sir Henry received his education at Rugby, and went afterwards to Christ Church

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College, Oxford, at which university he graduated. He took the degree of A.B. in 1787, M.A. in 1789, M.B. in 1790, and M.D. in 1794. He was elected a Fellow of the London College of Physicians also in 1794. Distinguished by the elegance of his manners, and the extent of his learning, it is not surprising that he should have excited attention in general society; and in March, 1795, he contracted a marriage with the Hon. Elizabeth Barbara St. John, third daughter of John, eleventh Lord St. John, and thus became established in the circle of the highest rank and fashion. Here his merits became duly appreciated, and he rapidly rose into notice as a medical practitioner. George III. appointed him one of his physicians, and all other medical honours were now before him. By the death of his mother's cousin, Sir Charles Halford, of the county of Leicester, he became possessed of an ample fortune, and changed his name, in 1809, by Act of Parliament, from Vaughan to that of Halford, and by royal favour a Baronetcy was conferred upon him in September of the same year.

There are few situations in the life of a professional man which, even in ordinary instances, are more painful, or incur a greater responsibility, than those which relate to attendance upon cases of disordered intellect. When, however, an aberration of mind affects the Sovereign and Ruler of the country, what task can be more arduous, and what talent is necessary to be exercised under such circumstances! Sir Henry Halford incurred this heavy responsibility, along with others no less sensible of its importance; and the manner in which the medical attendants of George III. acquitted themselves has been matter of praise and satisfaction. By virtue of their office, the Queen's counsellors had the nominating of the person to whose care the Sovereign should, under such unhappy circumstances, be committed; and the Rev. Dr. Willis, whose experience in insanity had been great, was selected. It is said, that Dr. Willis's treatment in the first two illnesses had made a lasting impression upon the monarch's mind, and that he could never, after his restoration to health, hear the name of Dr. Willis mentioned, without experiencing a shudder, and suffering an agony which was visible to all around. During Sir Henry's attendance, therefore, on the Princess Amelia, His Majesty desired him, in case of His Majesty experiencing a relapse of his malady, to take the care of him, adding, that Sir Henry must promise never to leave him, and that, if he wanted further help, he should call Dr. Heberden, and, in case of farther need, which would necessarily occur if Parliament took up the matter, Dr. Baillie. The introduction of these physicians when His Majesty became ill again, as he did very soon after, conciliated the confidence of the Queen and the Prince of Wales, who added the name of Sir Henry to the list of his

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physicians in ordinary. The condition of the King is now matter of history, and the annals of Parliament give all necessary information upon the subject. The confidence reposed in Sir Henry by the Prince of Wales, was continued when the Prince became George IV., and thence descended to William IV., and to the present Sovereign, the Queen Victoria: thus has Sir Henry been physician to four successive Sovereigns. No other physician has attained such honours. Caius was physician to Edward VI. and the Queens Mary and Elizabeth; Sir Theodore Mayerne to Henry V., Louis XIII., and James of England. Ambrose Paré was surgeon to Henry II., Francis II., Charles IX., and Henry III.

Almost every member of the royal family, from the time of George III. has been under the care of Sir Henry. His attentions to the late Duke of York were so unremitting, that to manifest the sense entertained of them, certain augmentations and supporters were, by royal warrant, granted to the arms of Sir Henry in 1827. And, upon the decease of George the Fourth, a very splendid clock, surmounted by a bust of His Majesty, was presented to him by the Royal Family, in proof, as the inscription states, "of their esteem and regard, and in testimony of the high sense they entertain of his professional abilities and unwearied attention to their late beloved sister, the Princess Amelia, Her late Majesty Queen Charlotte, His late Majesty King George the Third, His late Royal Highness the Duke of York, and lastly, of His Majesty King George the Fourth."

Sir Henry has hitherto published but little, and that which has appeared consists principally of Essays and Orations, written for the Transactions, or read before the evening meetings of the College, to which he has most liberally contributed. He delivered the Harvæian Oration in 1800, and again in 1835, in consequence of the death of Sir George Tuthill, who had been appointed to that honourable office. These orations are distinguished by their classical elegance. The latter contains deserved tributes to the memory of Dr. Maton, Dr. Ainslie, and Dr. Powell.

The following extract will offer a good specimen of the President's latinity: "*Et Ricardo Powell, et Henrico Ainslie, utrique contigit, in medio vitæ cursu, et in maximâ utriusque utilitate, morbo defecisse; huic vesicæ hæmorrhagiâ, illi paralyti.—Num id incommodo eorum et detrimento, an potius lucro apponam? Lucro sanè; Mens etenim humana præsentire in posterum amat, et in futurum cupit prospicere. Sed in hac festinatione urbis ac vitæ, in hac ambitionis occupatione et contentione, earum rerum contemplationem, ad quas seriò et præcipuè animum intendere debemus, quippe quæ ad immortalitatem, et æternam nostram felicitatem spectant, faciliè differre solemus, quia, quanquam aliorum*

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“officiis otiosi semper simus, nobismet ipsis, tamen, nostrisque curis
“nunquam vacamus. Imperanda est igitur, et cogenda præteriti tem-
“poris accurata recordatio, ut vitæ futuræ felicitas, certis conditionibus
“promissa nobis, pietate et pœnitentiâ sedulo expetatur et elaboretur. Hoc
“iis emolumento fuit, hoc Dei Optimi Maximi benignitas voluit, et propterea
“forsàn, morbis eos plecti jussit.”

“Me, si Deo placuerit ingravescens annis, imbecillitate valetudinis
“impediri,—esto.—Id omne benevolentiae Ejus acceptum referam. Sin
“otii fructus detur, cum sanâ mente in corpore sano, ad vitam anteactam
“recogitandam, et vestem, quasi colligendum, quæmadmodum Imperatori
“ante cadendum in Capitolio curæ fuit, ut decorè, et cum dignitate dis-
“cederet, laudem Deo majorem, majoresque gratias debiturus solvam.”

On June 25, 1825, the New College of Physicians in Pall Mall East was opened, and Sir Henry delivered an Oration on the occasion in the presence of their Royal Highnesses the Dukes of York and Sussex, many of the nobility, and persons of distinction. This was the most splendid meeting ever held by the College, and an elegant collation was provided for the numerous assembly at Sir Henry's expense. The oration, which, like to the Harvæian, was delivered in Latin, is distinguished by the purity of its style, and is particularly valuable, as affording the testimony of the President, and the late Dr. Baillie, to the religious character and opinions of the medical profession. Sir Henry did well to avail himself of such an opportunity, to repel the assertions so constantly made by the superstitious, more animated with zeal than enlightened by knowledge, in subjects of physical inquiry, as to the scepticism and infidelity of the profession.

The Essays (published in 1831) are six in number, and have for their subjects :—

1. On the Climacteric Disease. 2. On the Necessity of Caution in the Estimation of Symptoms in the Last Stages of some Diseases. 3. On the Tic Douloureux. 4. On Shakspeare's Test of Insanity. 5. On the Influence of some of the Diseases of the Body on the Mind. 6. On the *Kavoc* of Aretæus.

Essay I. That condition of the human frame which marks the decline of its powers, and tends to its decay, has been regarded as the grand climacteric, and this Sir Henry seems disposed to consider rather as a disease, than a mere declension of strength, and decay of the natural powers. He describes it as “a falling away of the flesh in the decline of life, without any obvious source of exhaustion, accompanied with a quicker pulse than natural, and an extraordinary alteration in the expression of the countenance.” This, however, it must be remarked, is a

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condition frequently connected with other complaints; hence, it has not been before described as a disease *sui generis*. Sir Henry has observed that it is better characterized in males than in females, and he traces the occurrence of a common cold as one of the immediate causes of the disease. Mental anxiety operates strongly in its production. A disease founded in a decadence of vital powers is not to be remedied; it may, however, be checked by proper medical treatment, and by the exhibition of appropriate means for imparting tone to the system.

Essay II. On a Cautious Estimation of Symptoms in the Last Stages of some Diseases, may be read by all the younger members of the profession with great advantage.

In Essay III. Sir Henry has endeavoured to trace the origin of several cases of Tic Douloureux, and he has been successful in referring it to a lesion of the bony fabric, either by a carious condition, or by a preternatural deposition. He has confined himself principally to those cases in which the fifth pair of nerves have been affected, and in one instance he found an exostosis of the alveolar process, in another a disease of the antrum highmorianum, and in a third, a most remarkable case, the skull of the patient of which was exhibited at the College, an extensive deposit on the internal surface of the cranium, which must have inevitably caused considerable pressure upon the brain during the life of the patient, and the result of which was the termination of this, as of many other cases of neuralgic affection, in a fatal attack of apoplexy. The late lamented and amiable Dr. Pemberton, who was literally a martyr to the Tic Douloureux, and reduced by it from a comely person of portly stature, to that of a decrepit and emaciated figure, died apoplectic, and the skull, in his case, was found to be materially thickened, and a bony deposition laid upon the *dura mater*; and it is well worthy of remark, that Dr. Pemberton, prior to the full development of his disease, had been at times affected with abscess of the frontal sinuses. Sir Henry does not profess to account for all cases of this disease as proceeding from a disordered condition of the bone; but he has satisfactorily shewn that, in several cases, that state of parts is an attendant upon it, and it is one which ought not to be lost sight of by the practitioner, as an attentive observation of the phenomena presented may be the means of eliciting some satisfactory mode of cure. Sir Henry does not fail to trace the ordinary cases of neuralgia to some disorder of the digestive organs.

Essay IV. One of the very trying and difficult positions in which professional men chance sometimes to be placed, is well illustrated by Sir Henry, and his sagacity on this occasion cannot but be admired. It affords

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an illustration of the advantages arising from a liberal education, and an attention to polite literature, in the exercise of an arduous profession. The immortal Shakspeare has left us a test of madness. Sir Henry proved the correctness of the test in a very interesting case :

“ ————— Ecstasy !

My pulse as yours doth temperately keep time,
And makes as healthful music. It is not madness
That I have uttered : bring me to the test,
And I *the matter will re-word, which madness*
Would gambol from.”

Hamlet, Act III. Scene 4.

“ A gentleman of considerable fortune in Oxfordshire, about thirty-five years of age, sent for his solicitor, to make his will. He was in habits of strict friendship with him, and stated that he wished to add five hundred pounds a year to his mother’s jointure, if she got well, she being then (to the knowledge of the solicitor and himself only) confined as a lunatic; to make a provision for two natural children; to leave a few trifling legacies; and then, if he died childless, *to make him, the Solicitor, his heir*. His friend expressed his gratitude, but added that he could not accept such a mark of his good opinion, until he was convinced that it was his deliberate judgment so to dispose of his property, and that decision communicated to him six months afterwards. In about six weeks’ time the gentleman became deranged, and continued in such a state of excitement for a whole month, (during which he was visited constantly by Sir George Tuthill and myself,) as to require coercion every day. At the expiration of that time he was composed and comfortable. But his languor and weakness bore a proportion to his late excitement, and it was very doubtful whether he would live. On entering his room one day, to my question—how he found himself, he answered,—“Very ill, sir: about to die; and only anxious to make my will first.” This could hardly be listened to under his circumstances, and he was persuaded to forego that wish for the present. The next day he made the same answer to the same question, but in such a tone and manner, as to extort from common humanity, even at the probable expense of future litigation, an acquiescence in his wish to disburden his mind. The Solicitor was sent for, and having been with him the preceding evening, met us, at our consultation in the morning, with a will prepared according to the instructions he had received *before the attack of disease, as well as to those given the last night*. He proposed to read this to the gentleman in our presence, and that we should witness the signature of it, if we were satisfied that it expressed clearly his

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intentions. It was read, and he answered, ‘Yes—yes—yes,’ distinctly to every item, as it was deliberately proposed to him. On going down stairs with Sir George Tuthill and the Solicitor, to consider what was to be done, I expressed some regret that we, the physicians, had been involved in an affair which could hardly be expected to terminate without an inquiry in a court of law, in which we must necessarily be called upon to justify ourselves for permitting this good gentleman, under such questionable circumstances, to make a will. It occurred to me then, to propose to my colleague to go up into the sick room, to see whether our patient could *re-word the matter*, as a test, on Shakspeare’s authority, of his soundness of mind. He repeated the clauses which contained the addition to his mother’s jointure, and which made provision for the natural children, with sufficient correctness; but he stated that he had left a namesake, though not a relation, ten thousand pounds, whereas he had left him five thousand pounds only; and there he paused. After which I thought it proper to ask him, to whom he had left his real property, when these legacies should have been discharged,—in whom did he intend that his estate should be vested after his death, if he died without children? ‘In the heir-at-law, to be sure,’ was the reply. ‘Who is your heir-at-law?’ ‘I do not know.’ Thus he ‘gambolled’ from the matter, and laboured, according to this test, under his madness still.”

But Shakspeare does not stand alone in the accuracy of his description of madness; its character, Sir Henry has shewn, is also well displayed by Horace, (Epist. lib. ii. 2, 128; and Sat. lib. ii. 3, 104,) and, in short, references might be appropriately made to numerous other ancient poets and philosophers. The pictures drawn by those masters of antiquity are applicable to all times and persons. Human nature remains the same. Nor is Shakspeare’s test of insanity to be considered as sufficient to the detection of all the forms of this dreadful disease. So varied are its shapes, and so delicate often the shades of its character, that nothing is more difficult than a description of madness.

Essay V. Sir George Baker, Dr. Falconer, and others, have directed their attention to the effects of the passions of the mind in the production of diseases of the body. Sir Henry is anxious to draw attention to the influence of the diseases of the body upon the powers of the mind, and he has commenced the subject by noting the effects of some of the more marked simple chronic diseases on the mental powers. It is a subject well worthy of the physician’s regard.

Essay VI. is upon the *Kavros*, or Burning Fever of Hippocrates and Aretæus, which is the Brain Fever of the moderns. An interesting illus-

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tration of this disease is given at pp. 96, 98. The illumination of mental powers at the last moments of life has ever been a subject of astonishment, and but unsatisfactorily accounted for by philosophers. "The flickering lamp blazes with unusual brightness just as it expires." "The fit gives vigour, as it destroys."

Sir Henry's description of the phenomena of death is distinctly marked, and accurately delineated, and it leads him to the discussion of a point in medical ethics of the highest importance:—the propriety of making known to a patient, labouring under a fatal malady, the probable consequence of his disease. This is often a matter of the most delicate and difficult nature. The communication of such intelligence frequently involves the risk of shortening even the period of existence that may belong to the sufferer. Moral and religious considerations relating to the individual himself, and a sense of duty to those with whom he may be connected, will often impel one to the exercise of a task which, physically speaking, may be open to censure or condemnation. The experience of such a man as Sir Henry Halford is of great moment on such a subject, and he has well stated it in the following passage:

"And here you will forgive me, perhaps, if I presume to state what appears to me to be the conduct proper to be observed by a physician in withholding, or making his patient acquainted with, his opinion of the probable issue of a malady manifesting mortal symptoms. I own I think it my first duty to protract his life by all practicable means, and to interpose myself between him and every thing which may possibly aggravate his danger. And, unless I shall have found him averse from doing what was necessary in aid of my remedies, from a want of a proper sense of his perilous situation, I forbear to step out of the bounds of my province in order to offer any advice which is not necessary to promote his cure. At the same time, I think it indispensable to let his friends know the danger of his case, the instant I discover it. An arrangement of his worldly affairs, in which the comfort or unhappiness of those who are to come after him is involved, may be necessary; and a suggestion of his danger, by which the accomplishment of this object is to be obtained, naturally induces a contemplation of his more important spiritual concerns, a careful review of his past life, and such sincere sorrow and contrition for what he has done amiss, as justifies our humble hope of his pardon and acceptance hereafter. If friends can do these good offices at a proper time, and under the suggestions of the physician, it is far better that they should undertake them than the medical adviser. They do so without destroying his hopes, for the patient will still believe that he has an appeal to his

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physician beyond their fears; whereas, if the physician lay open his danger to him, however delicately he may do this, he runs a risk of appearing to pronounce a sentence of condemnation to death, against which there is no appeal—*no hope*; and, *on that account*, what is most awful to think of, perhaps the sick man's repentance may be less available. But, friends may be absent, and nobody near the patient in his extremity, of sufficient influence or pretension, to inform him of his dangerous condition. And, surely it is lamentable to think that any human being should leave the world unprepared to meet his Creator and Judge, "with all his crimes broad blown!" Rather than so, I have departed from my strict professional duty, and have done that which I would have done by myself, and have apprized my patient of the great change he was about to undergo."

In addition to these Medical and Medico-Literary performances, Sir Henry has favoured the public with a curious account of the discovery of the head of the unfortunate King Charles, upon the opening of his coffin in St. George's Chapel, Windsor, April 1, 1813. The original MS. of this account is deposited in the British Museum, authenticated by the signature of the Prince Regent, who was present at the examination.

Since the publication of the "Essays and Orations," in 1831, Sir Henry has published some others, read at the meetings of the College.

In addition to those already noticed, in 1833 appeared a paper "On the Treatment of the Gout;" another "On Phlegmasia Dolens;" a third "On the Treatment of Insanity, particularly the Moral Treatment;" and a fourth "On the Deaths of some Illustrious Persons of Antiquity."

The gout is now, from the improved habits and manners of society, a disease of much less frequent occurrence than in former times, and the resources of art for the alleviation of its severe pains have been very effectually employed in the exhibition of various preparations of the colchicum. Discretion in the administration of such a remedy is, however, essential. Sir Henry does not usually employ it until the disease has fixed itself upon some one particular part of the body. He then orders the vinous preparation made from the root of this vegetable, and has never known a single instance of any untoward effect from it. The colchicum is not a new remedy for the disease; Sir Henry traces it under the name of *Hermodyctyls*, employed by Alexander of Tralles in the sixth century. He satisfied himself on this head by engaging one of the king's messengers to procure for him at Constantinople some of the *hermodactyls*; and he laid them before the College of Physicians, to shew, by a comparison with some specimens of the roots of colchicum, the identity of the two substances. Few parts of the human frame appear to be free from the visitations of the

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gout : Sir Henry has seen it in the kidneys, urethra, and prostate gland, also in the tonsils ; and some practitioners contend for its having occurred in the organ of vision.

Phlegmasia Dolens is a disease generally supposed only to afflict the female sex : the occurrence of it, as connected with the pregnant condition of the system, has led to this error. Modern pathologists, and more especially Dr. David Davis, Dr. Robert Lee, and Dr. Sims, have shewn this disease to consist of an inflammation of particular veins, and have described it under the more appropriate name of Phlebitis. Consistently with this view of the malady, we cannot be surprised to learn that instances of it have been known to occur in the male sex, and Sir Henry has seen it in three cases within the last few years. Two of these are given in detail ; and one is that of a late statesman, the Earl of Liverpool. The obstruction to the circulation of the blood, occasioned by this condition of parts in the venous system, was probably the cause of that disease of the brain which incapacitated him for the business of the ministry towards the close of his career, and ultimately proved fatal.

The Moral treatment of Insanity is a subject of peculiar interest, and there is much truth in the observation of Sir Henry, that ‘ there is no disease which appeals more forcibly to our best feelings, or which deserves better the serious attention of the philosopher, and the sympathy of the philanthropist ; no one which requires the best skill of the physician, more than insanity.’ This is a subject to which attention will be directed on some future occasion.

The “ Essay on the Deaths of some Illustrious Persons of Antiquity,” is a very curious and interesting paper. We have room only for one extract, which is important, as it appears to assist in fixing some of the discriminative signs by which the exhibition of a particular poison may be determined. There are few persons unacquainted with the Trial of Captain Donellan for the murder of Sir Theodosius Boughton, Bart., by an exhibition of laurel-water with a purgative mixture. The effect was to produce an epileptic fit, and immediate death. Sir Henry saw the face of Sir Theodosius when the corpse was disinterred, and gives his testimony to its particular hue resembling that of “ a pickled walnut.” He thinks it probable that, considering all the circumstances of the narrative of Tacitus, (*Annal. lib. xiii. c. 15.*) of the death of Britannicus, that he was poisoned by Nero by means of a similar preparation. “ The historian states, that when Nero had determined to despatch the ill-fated youth, he sent for Locusta, a convicted female poisoner, who had been pardoned, and was kept for state purposes. Nero ordered her to prepare a poison which

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should produce its effect immediately, in distinction from one of those which should prove fatal at some distant given day; for the notion prevailed then, that poisoners could devise a draught which would operate at any given period. Locusta prepared one which killed a goat after five hours. This would not serve the tyrant's purpose—he ordered her to provide a more speedy instrument, to prepare it in his own chamber, and in his presence. The boiling began, and was urged to the *effectual* moment, in proof of which it was tried on a hog, and the animal was killed by it immediately. Dinner is served; the young members of the imperial family are sitting at the foot of the table. The Emperor and his guests reclining on their sides. The unhappy youth calls for water—the prægustator tastes it, and then serves it. It is too hot; some of it is poured off, and the glass is filled up with a fluid resembling water—but this contains the poison. The young man drinks it, and is seized instantly with an epileptic fit, in which he expires. He is buried the same night.” Dio Cassius alludes to the lividness of the face of Britannicus, and he says that Nero was tempted to conceal it by paint, lest it should betray the secret that he had perished by foul means; and Sir Henry seems to suspect that Juvenal makes reference to this remarkable circumstance in his First Satire, in the lines:—

Instituitque rudes melior Locusta propinquas
Per famam, et populum *nigros* efferre maritos.

In 1834, he published a paper “On the Education and Conduct of a Physician,” in which he ably contends for a classical education, as exhibiting the best models of order and of taste. To the physician Sir Henry looks upon classical knowledge as peculiarly attractive, because he perceives in the ancient historians the origin of many of the terms of his art; the earliest mention of some remedies, whose value has since been confirmed by time and use; and in the poets, the most touching description of the effects of moral causes upon the health of the human system; to say nothing of the pure delight of such sources of innocent amusement as those which are opened in these fountains, and which are so well calculated to heighten the pleasure of future success, and to soften the adversities of possible disappointment. The study of Anatomy, Physiology, Pathology, Botany, Chemistry, Mathematics, Natural Philosophy, &c. is properly insisted on, and their relative importance distinctly marked. Moral qualifications are no less ably descanted upon. The Essay concludes with an appropriate eulogy of Lord Grenville, the late Chancellor of Sir Henry's Alma Mater, whose fondest wishes are justly stated to have been for the

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“prosperity of his country; his recreation, literature; and his comfort, religion.”

In 1825, Sir Henry printed a paper “On the Deaths of some Eminent Persons of Modern Times,” and he relates some curious particulars relative to Henry VIII., Edward VI., Mary, the elder daughter of Henry VIII., Cardinal Wolsey, Oliver Cromwell, Charles II., William III., Dryden, Swift, George I., II., III., IV., and the Duke of Gloucester. Henry VIII., who died of dropsy at the age of fifty-six, was a great dabbler in physic. He not only offered medical advice on all occasions which presented themselves, but he also made up the medicines, and administered them. He therefore combined the three offices of physician, apothecary, and nurse, and a very curious collection of his recipes is preserved in the British Museum. In the last illness of Charles II., (a fit of apoplexy) one of the prescriptions is signed by no less than fourteen physicians, and one of the articles prescribed is “twenty-five drops of the spirit drawn from human skulls!”

At the commencement of the last Session of the Evening Meetings of the College of Physicians, Sir Henry, according to custom, delivered the Introductory Essay, and chose for his subject the “Effects of Cold.” It afforded another opportunity of displaying the President’s knowledge of classical and general literature. The operation of cold upon the human body is a subject alike extensive, complicated, and difficult. The effects vary according to the degree of cold, the state of the system, and the manner in which it is applied. The diversity is indeed so great, that no little confidence in theoretical reasoning, is necessary to give credit to the possibility of one principle producing such variable results. Sir Henry alluded to many striking incidents, and the loss of human life, connected with the history of Xenophon’s memorable retreat, of the effects of cold in the Swedish army, of Napoleon’s Expedition to Russia, of the Travels of Banks, Solander, &c. The President coincides with the opinion of some other pathologists, as to death being produced in this case by apoplexy. The records of Greenwich and Chelsea Hospitals serve to demonstrate that the longevity of the soldier exceeds that of the sailor, and this Sir Henry accounts for by reference to their different habits. The sailor is most exposed to the vicissitudes of climate, has to contend with storms and tempests, and is also less prudent when on shore, all of which doubtless tend to abridge the period of his existence.

Sir Henry received from George IV. the honour of Knight Commander of the Guelphic Order, on the day upon which the New College of Physicians was opened, and from King William IV., the further distinction of Grand

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Cross of the same Order. He is a Fellow of the Royal and Antiquaries' Societies, and attached to many other literary and scientific institutions. By virtue of his office of President of the Royal College of Physicians, the chair of which he has filled during eighteen years, he is also one of the Trustees of the British Museum. Sir Henry has given evidence on various subjects connected with Medicine before Committees of the Houses of Parliament, of which Reports will be found in the printed Journals.

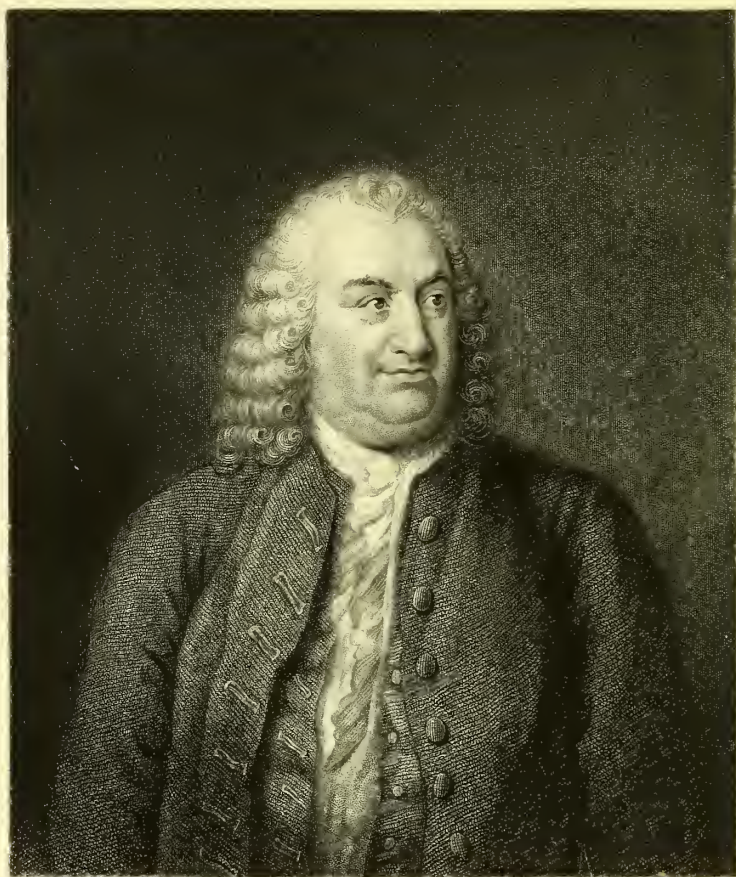
The extensive practice Sir Henry has for so many years enjoyed, united to his intimate acquaintance with his profession, and the advantages derived from his habits of reading and study, has rendered him a practitioner of great celebrity and success. The writer of this has had frequent opportunities of meeting him in consultation, and it is but justice to say that no one he ever met shewed quicker perception as to the nature of the disease, or more readily seized upon all the principal points of a case. In this respect, as a consulting physician, Sir Henry Halford is of the highest value, and is well appreciated by his professional brethren, who cannot but feel that much also is due to him for shedding a splendour around the College, and labouring very zealously towards placing the members of a liberal profession in that station in society to which their merits, their education, and their utility, justly entitle them. This is a point of no little importance to the profession, the members of which certainly do not hold the rank they merit in a country so advanced in civilization. The difficulties which attend the acquisition of a knowledge of medical science, and the importance of that science to society, have been always admitted. Is the error, then, with the public, or with the profession itself? Does not the fault chiefly rest with its own members? Have they not, by the practice of arts to gain a temporary popularity, and to raise themselves above their brethren, tended to produce this effect, and lessen the estimation of society for the members of a *liberal* profession? There is a want of self-respect, and a want of union among medical practitioners. Why should this be?—Surely no class of men are exposed to greater dangers in the performance of their duties. If malignant diseases spring up, they are never found backward to examine into their nature; heedless of personal security, the abodes of pestilence are visited, and hospitals, crowded with “contagious death,” receive their unremitting attention. The vocation of the physician is with the sick and dying; and this he pursues, and must pursue, with serenity and thoughtfulness: his equanimity is never permitted to be disturbed. In the midst of an infectious atmosphere, he is calmly meditating on the horrors which surround him, and devising means for the relief of the diseased, and

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those on the confines of death. Even with the dissolution of the patient, his zeal suffers no relaxation: the art of dissection is employed, often at the peril of his own existence, to trace the hidden causes of disease, and thereby to counteract the malady, or afford alleviation to the afflicted. Are these services of little value or consideration? Let them be duly regarded, and then say, in what estimation the medical practitioner deserves to be held in society. Are his toils, his dangers, his merits fully acknowledged?

These observations apply, of course, to the members of the profession as a body; individually, there are exceptions, but they are of great rarity. Sir Henry Halford is deservedly one of these: he is entitled to it by his learning and his liberality. He moves in the first circle, and is in the full enjoyment of intercourse with all ranks of society; and in taking leave of him on this occasion, the writer would fain address him in the language of his favourite Horace, and say,

“*Vitâ cedat, uti conviva satur.*”



James Oglethorpe, first president

of Georgia

Born 28 Feb 1731

ALBERT DE HALLER, M.D. F.R.S.

“*Artis Medicæ decus.*”

HIPPOCRATES has been styled the “Prince of Physicians.” Haller may justly be called the “Prince of Physiologists.” No individual, either of ancient or modern times, has equalled him in the extent of his erudition, and the magnitude of his labours. He united to considerable learning and genius, the most laborious industry and patience of observation, and he has thrown numerous lights on the science of physiology, reducing to demonstration that which was before merely conjectural, and placing the foundations of the science on its only true basis—an attentive examination into the intimate structure of the human body, and an observation of the various phænomena “by which we live and move and have our being.” There is a limit, however, to all human knowledge, beyond which it is impossible to pass. Of this Haller was most fully sensible. He well knew how ignorant we are, and ever must be, of FIRST CAUSES. The effects of these are apparent to our senses, but their nature and origin are hidden from our view; there is, indeed, an agency beyond all that the scalpel can trace or the microscope detect—truths which reason can never discover, nor the most exalted intelligence adequately comprehend. The Psalmist tells us, “Such knowledge is too wonderful for me; it is high, I cannot attain unto it.”

ALBERT DE HALLER was born at Berne on the 18th of October, 1708. He was the son of Nicholas de Haller, an Advocate and Chancellor of the County of Baden, a descendant of an ancient patrician family of the city of Berne; and his mother was the daughter of one of the members of the sovereign council of that republic. In early life Albert de Haller displayed much activity of mind and determined perseverance, and gave promise of great genius. It is reported, that when only four years of age he made short exhortations to the domestics of his father’s house, on texts of scripture, at the customary family prayers, for Haller’s parents were distinguished for their piety. At nine he had composed for his own use a Chaldaic Grammar,

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a Hebrew and Greek Lexicon, and a Historical Dictionary containing upwards of 2000 articles extracted from the Dictionaries of Moreri and Bayle. At this time he was called upon to present a piece of writing in the Latin language, to pass to the upper school. Haller presented one in Greek. Such efforts at so premature an age justly excited the fears of his father, who apprehended that his son's eagerness to learn every thing might prove destructive of profound acquirements. He therefore placed him under the tuition of a preceptor; but he was ill adapted to the developement of such a mind as Haller's: a man more distinguished by the persecutions to which he had been subjected on the score of his religious opinions, than by any high mental attainments. He was stern and severe; but these qualities did not destroy the ardour of his pupil, or create a disgust for study. They produced another effect—they excited a desire of revenge, which was exhibited in some Latin verses directed against the teacher, whom he never could see without, it is said, feeling a kind of involuntary terror. At thirteen years of age, Haller lost his father and also his fortune. He had been destined for the church, but now, left to his own choice, he selected medicine. He was placed at a public school, where he gained great distinction for his classical knowledge. He also manifested a taste for poetry, and composed several poems. At fifteen he had written tragedies and comedies, and also an epic poem of 4000 verses, in which he attempted an imitation of Virgil; and upon the house in which he resided being on fire, at the hazard of his life he rescued from the flames those efforts which he then regarded as the most precious of his possessions in the world. One year, however, served to dissipate this illusion, and he committed the papers to the same destructive element from which he had preserved them, and directed his attention to the study of philosophy. He studied under Camerarius and Duvernoy at Tubingen, afterwards at Leyden under Boerhaave in the year 1725. Here he associated with Albinus and Ruysch, and other great men, until his health being impaired, probably by intense application, he was compelled to travel, and went into Lower Germany. Upon his return he took the degree of Doctor of Medicine, and chose for the subject of his thesis a discourse on a pretended discovery of a salivary duct by Coschwitz, which Haller and Duvernoy had shewn by dissections, both of the human and brute species, to have no existence. He visited England in 1727, and became acquainted with Sir Hans Sloane, Cheselden, Douglas, Pringle, &c. After paying a visit to France,* where for a short time he studied under Winslow,

* His stay in Paris was short, owing to an information having been lodged against him for dissecting human bodies, upon which subject the prejudices of the French people were at this time very strong.

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Le Dran and Louis Petit, he went to Basle, and attended to mathematics with the celebrated Bernoulli, and here he commenced the study of botany, and laid the plan of his work on the Plants of Switzerland. He returned to Berne in 1730, being then only twenty-two years of age. His poetical genius again manifested itself—but in descriptions of nature, in reflections on mathematics, morals, and all the feelings which exalt and dignify the human character. These were published, and soon translated into French, and gained for their author a deserved celebrity. His devotion to the Muses formed no impediment to the cultivation of philosophy—to severer and more important pursuits. The works he has published sufficiently demonstrate the labour that must have been exercised in anatomical and physiological studies, the observation of disease, &c. These, sufficient in themselves to engage the whole time of any man of ordinary powers, were insufficient for the grasp of Haller's genius—he revelled in the whole domain of literature and science, and there is scarcely a subject within the range of letters in which he has not exhibited some extent of knowledge. No vicissitude of fortune, no change of circumstances, could for a moment divert his mind from the pursuit of learning. Blessed with a most powerfully retentive memory,* he had also the faculty of order; he methodized his acquisitions, and the beneficial results he gave to mankind. To extend his acquaintance with botany, he made several excursions, ascending the highest mountains of Jura and the Alps; he visited also the marshes, and he surveyed the vineyards, in the more temperate parts of his native country.

In 1734 the republic of Berne established a public amphitheatre, and Haller was appointed to teach anatomy. He was also appointed to a hospital, and had the arrangement of the public library and the cabinet of medals. His abilities were soon, however, to be exercised in a wider field. George II. called him to Göttingen, where he was made Professor of Anatomy, Surgery and Botany. He accordingly left his native country, accompanied by his wife, whose tastes are said to have corresponded to those of her husband, with whom she lived in great happiness, and gave to him three children. Haller's health was infirm; travelling with a family was in those days difficult and troublesome, and by an accident in the overturning of the carriage, his wife sustained so severe an injury that she died almost at the instant of her arrival at Göttingen. In a melancholy and dejected state of mind, therefore, did Haller enter upon the performance of

* Of his extraordinary memory an instance has been related of his having enumerated all the sovereigns mentioned in De Guignes's History of China, together with the principal events that occurred during each reign.

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his new duties : removed from all his relations and immediate connexions, he sought relief in the objects of his studies, and proved the truth of an observation made by the celebrated Madame de Stael, that “*Le meilleur moyen de calmer les troubles de l'esprit n'est pas de combattre l'object qui les cause, mais de lui présenter d'autres, qui le detournent et l'éloignent insensiblement de celui là.*” He soon acquired great popularity. His attention to his pupils* was unwearied, yet he found time for the composition of those numerous works by which he has been so well known to, and admired by, posterity. Physiology obtained of him the greatest share of his time—and what pursuit so well entitled to such distinction? Anatomy demonstrates the substance, shape, condition and connexion, and relative dependence, of the several parts which enter into the formation of an animal body. Physiology teaches us the adaptation of this structure and those properties to the functions the several parts have to perform, and traces also the influences upon which they depend for their just and proper action. In the prosecution of physiological research, a reference to comparative anatomy is absolutely essential, for by this study many important discoveries have been made, as to the manner in which some of the operations of the animal economy are effected. To merely enumerate the various objects embraced by physiological science, to detail those alone which depend upon an inquiry into the laws of union between the mind and the body, and their mutual influence upon each other, would incur a detail too extensive for this brief memoir, and it can only therefore be remarked, that Haller regarded this science in its most extensive sense, pursued it with the utmost zeal, and gave to the world the first work deserving of the name of a system upon this subject. His experiments are all detailed with great fidelity and simplicity, and his reasonings upon them distinguish the philosopher. Before his time, little beyond speculative hypothesis had been entertained; he gave to physiology the certainty of a physical science, by connecting all the operations of the human frame with the peculiar condition of the structure of the parts upon which their functions were to be dependent. His first work was put forth under the modest title of an “*Essay*,” which, after thirty years’ consideration and emendation, was published as “*Elementa Physiologiæ Corporis Humani.*” The value of this work is so universally admitted, that it is unnecessary to say one word upon its merits; it will ever remain a monument of the industry, research, and genius of its author, and never be consulted by the student, or inquirer into nature, without profit and satisfaction. The numerous errors he corrected, the opinions he pro-

* Of this number were Zinn, Zimmerman, and Caldani.

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mulgated, and the discoveries he announced, involved him, as may readily be conceived, in various controversies. In all of these he conducted himself with the calmness, and dignity, and firmness becoming a great natural philosopher. He defended his opinions with distinguished ability and candour. They had chiefly been based upon experiments made on living animals, and had reference to his doctrines upon Irritability and Sensibility.

To a mind like that of Haller's, deeply impressed with the truths of religion and the doctrines of Christianity, it is reasonable to suppose that the performance of these experiments gave rise to much remorse and distress. This is apparent in various parts of his writings, where may be found constant apologies for seeming cruelty, on the ground of their benefit to mankind. Upon the subject of the performance of experiments upon living animals, much has of late been said; and from one extreme we are almost likely to run into the opposite, as in most cases.* Happily, however, for physiology, its greatest lights are to be derived from the observation of pathological phænomena, or those appearances which present themselves under disease of parts or disordered function. Science and humanity are in this instance therefore not opposed to or inconsistent with each other. Haller possessed a great faculty of order, and this in the study of botany was found to be of the most essential importance. He, however, looked upon the establishment of an order in no other light than that of an auxiliary to the attainment of real knowledge of the subject. His object was to discover the most natural mode of the arrangement of plants, and his system will therefore be found to partake of the characters of those of Linnæus, Jussieu, and Tournefort, from all of whom he derived assistance. The system of Linnæus was founded upon the sexual character of the plants, that of Jussieu upon the situation of parts. Haller obtained from these celebrated naturalists, and from Tournefort, various divisions, and made choice of a system founded upon the mutual relation subsisting between

* No one would more strongly reprobate the performance of unnecessary experiments upon living animals than the writer of this sketch; but when made by men whose names are a sufficient guarantee for their usefulness, (and among those who have chiefly made vivisections are Harvey, Haller, Spallanzani, Hunter, Parry, Haighton, Cooper, Bell, Brodie, Blundell, Hall, &c.) and to elucidate difficulties in Physiology, Pathology, and the operation of medicines upon the human body, they cannot but be regarded as justifiable, nay, even most laudable. Much light has been derived from experiments performed by those whose names have been referred to; and in the consequent improvement of medical science, an alleviation of human misery effected.

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the number of stamina and that of the petals; and in the monopetalous plants, between the number of stamina and the divisions of the calyx. All artificial systems must necessarily be liable to objections, and but few botanists have been found to embrace the method of Haller. His description of plants, and the faithful manner in which they have been figured, have been universally admired. No less than 2486 species of plants are described in his "*Historia Stirpium Indigenarum Helvetiæ*."

His disposition to methodize and to condense the knowledge already obtained upon various subjects of science, induced him to plan the composition of four kinds of *Bibliotheca* relating to Anatomy, Botany, Surgery, and Medicine. These display the extent of Haller's reading and the strength of his judgment; for not only do they contain extracts from the several authors whose opinions are detailed, but they give also his own estimation of the value or imperfections of them, and point out in what degree they are to be considered as fitted to be the guide of the student. As these opinions had reference both to dead and living authors, the publication rendered Haller liable to much censure and abuse. He had set up as a censor upon all that others had done; and the high opinion generally entertained of the talents of Haller, and the reputation in which they were held, may be well estimated by the boldness of this undertaking. No less than 52,000 works are noticed in the *Bibliothecæ*.

Haller associated himself with a small number of persons connected with the Royal Society of Göttingen, who at an early period undertook to publish reviews of the various publications that appeared. Some of the best articles of this kind were furnished by Haller; and relate not merely to medical and botanical sciences, but extend to various branches of history and letters, and mark the erudition, judgment, and fancy of their author. He is said to have written 1,500 articles for this publication. He procured translations of several works into the German language, and wrote prefaces to such as he deemed worthy of peculiar notice. He was anxious to promote the prosperity of the University of Göttingen; and principally by his influence were established a school for surgery, an academy of sciences, a lying-in hospital, a museum of anatomy, a botanic garden, and a school for design, where the pupils were taught to delineate all the objects of natural history. He prevailed on the regency of Göttingen to build a reformed church for the Protestant professors and students of the university, and he superintended its erection. All undertakings for the advancement of science or the public good, had his zealous support and assistance; and the numerous services he had rendered the city of Göttingen, procured for him an honourable distinction from His

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Britannic Majesty, who obtained for him the rank of a Noble of the Empire from the Imperial Chancellor. This honour he, however, declined, as in his native country, Switzerland, it would have been considered a badge of vanity, and an odious distinction: he has, nevertheless, generally been designated by the title of "Baron Haller."

Upon the death of Dillenius, Haller was invited to Oxford, to succeed to the Professorship of Botany; and this offer is said to have been made, at the particular request of Dillenius, when upon his death-bed. The love of country, ever so remarkable in the Swiss, prevented him from yielding to this solicitation, as well as to others that had been urged by the King of Prussia, the States of Holland, &c.; for the estimation in which he was held by his contemporaries abroad seems to have been uncommonly great. The labours in which he had been engaged at Göttingen during seventeen years now began sensibly to affect his health, and he resolved upon returning to his native country, where his talents and character were so well appreciated as to have caused him to have been elected one of the members of the sovereign council. This honour was conferred upon him in 1745; but he left Göttingen early in 1753, in which year a place fell to him by lot, by which he acquired a voice in the election of the magistrates of Berne. Men profoundly versed in natural philosophy and the sciences, have not been very remarkable in the performance of civil duties; yet there are some situations, in which they are capable of rendering very essential service to a community; and such proved to be the case with respect to Haller, for he brought to great perfection the administration of the salt-works, and thereby considerably increased the revenue. The different establishments for education received his attention, and he devised the plan of a school for the education of the opulent citizens, to qualify them to fill the principal offices of the republic. He was the president and promoter of the Economical Society of Berne. He benefited the condition of the pastors of the Pays de Vaud; and as one of the members of the Board of Health, he opposed the pretensions of ignorant empirics. His fellow-citizens engaged him in the performance of several duties of great importance to the state, and his conduct fully justified the confidence they had reposed in him. He drew up a regular system of political economy, and published it in the form of a romance, under the title of "Usong."

In the midst of these duties he did not entirely abandon his former pursuits: physiological speculations and inquiries still continued to engage his attention: he further arranged many of his works, and contributed several papers to the transactions of public academies, composed in the

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German, Latin, Italian, French, and English languages. Botany retained all its interest in his advanced years ; and he made frequent excursions into the neighbouring mountains, by which he perfected his work on the plants indigenous to Switzerland.

He was appointed perpetual President of the Academy of Göttingen ; and he was earnestly solicited to accept of the Chancellorship of the University, vacant by the death of M. de Mosheim. The sovereign council of Berne, in order to retain him among them, and to continue to derive improvement from his exertions, settled upon him a pension for life ; and the office of Chancellor, though made by his Britannic Majesty, was declined. He refused also the Chancellorship of the University of Halle, offered to him by the King of Prussia, and also a lucrative appointment at Petersburg. Foreign countries appear to have been alike anxious to gain his services, and to bestow upon him various honours. Gustavus III., King of Sweden, made him a Knight of the Polar Star. He was one of the eight foreigners elected into the Academy of Sciences of Paris, and he was chosen a Fellow of the Royal Society of London. A great number of other institutions enrolled him in the list of their associates. His fame was universal : no person of rank or scientific eminence visited Switzerland without paying their respects to Haller ; and on one occasion he received Joseph II., Emperor of Germany.

In the midst of all this glory, the fruit of ardent study and great abilities, his frame, naturally delicate, began to decay. Attacks of gout were succeeded by an inflammatory affection of the bladder, which subjected him to pain, and rendered necessary very large doses of opium. By this means his intense sufferings were calmed, and he was not precluded the possibility of making some portion of mental exertion, for at the very close of his life he continued to enjoy the society of his friends, and was engaged in making additions and improvements to his works. A life spent in the study of nature, in promoting the advancement of science, in ameliorating the condition of mankind, and improving and refining the morals, was likely to be closed with serenity and resignation. Religious truths had made a deep impression upon the mind of Haller, and throughout life he was remarkable for his piety. He therefore looked forward to his removal from this world without anxiety or distress. His friend and physician, Rosselot, attended him at the last, and did not disguise from Haller his real situation. The patient exhibited such extraordinary fortitude under this most trying of all situations, that, feeling his pulse from time to time, he said to his friend with great composure, "the artery no longer beats," and immediately he expired. This occurred on the 12th Dec. 1777, in his 70th year. In this year died

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also Linnæus and Jussieu, Voltaire and Rousseau. Science and literature have rarely lost such splendid ornaments in so short a period of time.

Haller was three times married. The death of his first wife has been already noticed. Two years after that event he married again, and lost his wife in childbed. By his third marriage he enjoyed much happiness, and had eleven children. At the time of his death were living four sons and four daughters, all of whom were established in life.* Haller presents to us the picture of what we could wish all philosophers and men of science to be: "his soul was gentle, and his heart replete with sensibility." His whole career was one of incessant application; neither sickness nor sorrow, however it might check, could stop its progress. His correspondence was most extensive—all the principal literati and distinguished men of science of his day held communications with him. He collected a most extensive library, consisting of nearly 20,000 volumes, on Anatomy, Surgery, Medicine, Botany, and Natural History. He formed also Herbaria, made Diaries, and left behind him nearly 150 MSS. all written in his own hand (a very minute character,) and the whole of these, together with the library, were purchased by the Emperor Joseph, and given to the University of Pavia.

The person of Haller is described as tall and majestic, and of a serious and expressive countenance. He had at times an open smile, always a pleasing tone of voice, usually low, and seldom elevated even when he was most excited. He was fond of unbending himself in society, and was on these occasions remarkably cheerful, polite, and attentive; he was free of pedantry, and would converse with the ladies on fashions, modes of dress, and other trifles, with as much ease as if always accustomed to intercourse with general society.

It remains only to add a list of the works of Haller, which may be thus arranged:—

1. *Diss. Inaug. de Ductibus Salivalibus novis.* Tubing. 1725. 4to.
2. *Poem on the Alps.* Lond. 1729. Also in German, (22 editions!) French, Italian, and Latin. Berne. 1795. 4to.†
3. *De Musculis Diaphragmatis.* Bernæ, 1733. 4to.
4. *Comment. ad Herm. Boerhaave Prælect. Acad.* 1739-44. 7 vols. 8vo.
5. *Iter Helveticum et Iter Hercynicum,* Gött. 1740. 4to.
6. *Hippocratis Opera Genuina.* 1740. 2 vols. 8vo.
7. *Icones Anatomicæ Corp. Human.* Gött. 1743-56. fol

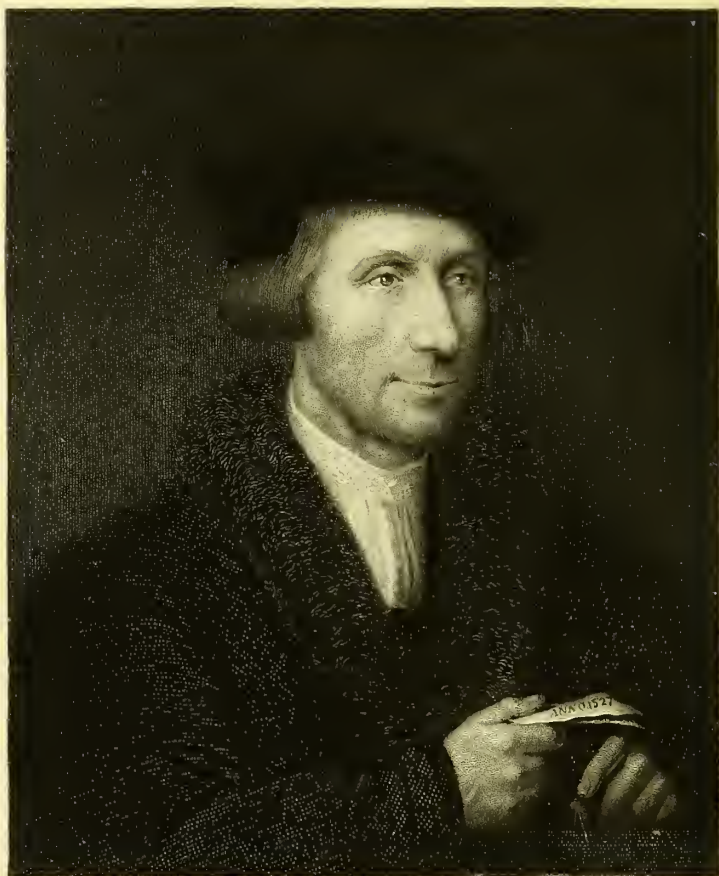
* Haller offers an instance in contradiction of the assertion of Lord Bacon, that "the best works, and of greatest merit for the public, have proceeded from the unmarried or childless men."

† Prince Radzivil, the commander of the Polish Confederates, was so delighted with this work, that he sent the author a brevet of Major-General in his army! Haller has been looked upon as the father of the new school of German poetry.

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8. *Enumeratio Method. Stirpium Helvet. Indig.* Götting. 1742. 2 tom. fol. and 1768, 3 vols. fol.
9. *Hist. Morborum, qui an. 1699, 1700, 1701 et 1702, Vratislaviæ grassati sunt.* Lausan. 1746. 4to.
10. *Primæ Linæe Physiologiæ.* 1747, 8vo. Edinb. 1767. Translations in 1754, 1778, 1785, 1801, &c.
11. *Opuscula Botanica.* Götting. 1749. 8vo.
12. *Poesies, Germ. Franc.* Zurich. 1750. 8vo. Translated into English. Lond. 1790-94.
13. *Disputationes Anatomicae Selectæ.* Götting. 1746-51. 8 vols. 4to.
14. *Methodus Studii Medici.* Amst. 1751. This is the work of Boerhaave, but there are very considerable additions by Haller.
15. *Opuscula Anatomica de Respiratione, &c.* Gött. 1751. 8vo.
16. *Dissertation sur les parties sensibles et irritables des Animaux.* Laus. 1752. 12mo.; and Lond. 1755. 8vo.
17. *Mémoires sur la Nature sensible et irritable des parties du Corps Animal.* Laus. 1756. 4 vols. 12mo.
18. *Physiology; being a Course of Lectures upon Visceral Anatomy, &c.* Lond. 1753. 2 vols. 8vo. A Translation by Dr. S. Mihles.
19. *Opuscula Pathologica.* Laus. 1755. 8vo.
20. *Letters concerning several late Attempts of Free Thinkers, yet living, against Revelation.* (In German.) 1755.
21. *Disputat. Chirurgicae Selectæ.* Laus. 1755-6. 5 vols. 4to.
22. *Deux Mémoires sur le Mouvement du Sang, &c.* 1756. Translated into English. Lond. 1757. 8vo.
23. *Pathological Observations.* Lond. 1756. 8vo.
24. *Disputat. Medicæ ad Morbor. Hist. et Curat.* Laus. 1757-68. 7 vols. 4to.
25. *Elementa Physiologiæ Corporis Humani.* Lausan. 1757-66. 8 vols. 4to.
26. *Deux Mémoires sur la Formation du Cœur dans le Poulet, sur l'Oeil, sur la Structure du Jaune, &c.* Lausan. 1758. 2 tom, 12mo.
27. *Medical, Chirurgical, and Anatomical Cases and Experiments, communicated to the Royal Academy of Sciences at Stockholm.* Lond. 1758. 8vo.
28. *De Variolis, Apoplexia, et Hydrope.* Laus. 1761. 12mo.
29. *Opera Anatomico-Minora.* Laus. 1762-68. 3 vols. 4to.
30. *Bibliotheca Botanica.* Lond. 1771-2. 2 tom. 4to.
31. *Ussong; an Eastern Narrative.* (In German.) Lond. 1772. 2 vols. 12mo.
32. *La Génération.* Paris. 1774. 2 tom. 8vo.
33. *Bibliotheca Anatomica.* Tiguri. 1774-7. 2 tom. 4to.; and Lond. 1774-6.
34. *Bibliotheca Chirurgica.* Berne, 1774-75. 4 vols. 4to.
35. *Bibliotheca Medicinæ Practicæ.* Basil. 1776-88. 4 vols. 4to.
36. *Letters to his Daughter on the Truth of the Christian Religion.* Translated from the German. Lond. 1780. 8vo.
37. *Of a Steatomatous Tumour of the Ovarium.* Phil. Trans. 1744.—38. *Of a Schirrosity of the Cerebellum.* Ib.—39. *On a Contracted Vena Cava; on a Sinus of the Aorta.* Ib.—40. *Histories of Mislaid Structure, observed in Dead Bodies.* Ib.—41. *Experiments on Respiration.* Ib. 1750.—42. *Of the Course or Passages of the Semen.* Ib.
43. *Anatomia Cadaveris Virilis.* Gött. 2 tom. fol. 1781.





Thoms Linacrus Medicus

THOMAS LINACRE, M.D.

FIRST PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS.

“*Nomen in exemplum sero servabimus ævo.*”—MILTON.

DR. THOMAS LINACRE (or as his name has been frequently written, Lynacer, Lynaker, Lynakre,) was born at Canterbury, in the year 1460. He was the descendant of an ancient family, mentioned by Fuller and Ward as the Linacres of Linacre Hall, in the parish of Chesterfield, in Derbyshire; whence has arisen the error of Hollingshed and others, who have stated him to have been born in the town of Derby. He received his education under William Tilly of Selling, at the King's School at Canterbury, whence in 1480 he was sent to Oxford, and elected a Fellow of All Souls' College, in 1484. He was much distinguished by his learning; to increase which, however, he travelled into Italy, accompanying his former teacher, who had been appointed on an embassy to Rome by Henry VII. Linacre lost no opportunity of acquiring knowledge; and being at Florence, he was introduced to, and became a great favourite of, the celebrated Lorenzo de Medicis, the greatest patron of letters of his age, and with the preceptors of the sons of Lorenzo he had the advantage of pursuing his studies. He read Greek with Demetrius Chalcondylas, a native of Greece, the author of a Greek Grammar, which is remarkable as being the first book printed with Greek characters. This scholar had fled from his native country, and with other learned men taken refuge in Italy, upon the capture of Constantinople by the Turks. Linacre profited also by instruction in the Latin from Agnolo Politiano. With such advantages it is not surprising that he should have excelled in his knowledge of the dead languages, and that his style should be marked by great elegance. Having made those acquisitions, he travelled to Rome, and there studied natural philosophy and physic under Hermolaus Barbarus, by whose influence he enjoyed opportunities of consulting the precious manuscripts preserved in the library of the Vatican. Thus fully imbued with classical learning and natural knowledge, and having taken a degree of Doctor of Medicine at Padua, Linacre returned to England, incorporated and settled at Oxford, at the University of which he read

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lectures upon medicine. He was not long, however, permitted to remain in this place; for Henry VII. commanded him to his Court in 1501, and appointed him physician and preceptor to his son, the Prince Arthur, and he was subsequently made physician to the King himself, and also to his successor, Henry VIII., and to the Princess Mary. The honours paid to his extended learning probably induced him to abandon physic, and turn his attention to divinity; for we find that in the latter part of his life he was applying himself with great diligence to this study, and that he entered the priesthood, and obtained the rectory of Mersham, 23d October, 1509. This he held only for a month, being installed into the prebend of Eaton in the cathedral of Wells, and in 1518 to another of York. He also held other preferments in the church, which were conferred upon him by Archbishop Warham. His reasons for entering the church have never been detailed. Whether the infirmity under which he laboured, and which ultimately occasioned his death, incapacitated him from pursuing the active duties of his profession, or whether higher motives operated, we know not; but Sir John Cheke has recorded, that only a little before his death, when worn out with fatigue and sickness, he began to read the New Testament, and that upon perusing the 5th, 6th, and 7th chapters of St. Matthew, containing Christ's Sermon on the Mount, he threw the book from him with great violence, passionately exclaiming, "Either this is not the Gospel, or we are not Christians." Sir John Cheke gives a character of Linacre in his Treatise "*De Pronunciatione Græcæ Linguae*." Linacre continued in the church until his decease, which took place on the 20th or 21st October, 1524, having suffered considerable torment from the disease of stone in the bladder. He was honoured with entombment in the Cathedral of St. Paul, where, in 1557, a handsome monument was erected to his memory, with the following elegant inscription by Dr. Caius, the founder of the college of that name in the University of Cambridge:—

THOMAS LYNACRUS, Regis Henrici VIII. Medicus; Vir et Græcè et Latine, atque in Re Medicâ longè eruditissimus; multos ætate suâ languentes, et qui jam animam desponderant, Vitæ restituit. Multa Galeni Opera in Latinam Linguam, mirâ et singulari facundiâ vertit: Egregium opus de emendatâ structurâ Latini sermonis, Amicorum rogatu, paulò antè mortem edidit. Medicinæ Studiosis Oxoniæ publicas Lectiones duas, Cantabrigiæ unam, in perpetuum stabilivit. In hâc Urbe Collegium Medicorum fieri suâ industriâ curavit, ejus et Præsidentis proximus electus est. Fraudes, dolosque mirè perosus; fidus amicis; omnibus ordinibus juxta clarus: aliquot annos antequam obierat Presbyter factus. Plenus annis ex hâc vitâ migravit, multùm desideratus, Anno Domini 1524, die 20 Octobris. Vivit post Funera Virtus.

THOMÆ LYNACRO CLARISSIMO MEDICO JOHANNES CAIUS POSUIT Anno 1557.

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This inscription records the estimation in which his learning and abilities were generally held, and the regard entertained for his honourable and virtuous conduct. Fuller says, "It is questionable whether he was a better Latinist or Grecian, a better grammarian or physician, a better scholar or man, for his moral deportment;" and Freind, a no less competent authority, calls him, "the most accomplished scholar of the age." He states him to have been reckoned, by the best judges, as a man of bright genius and a clear understanding, as well as unusual knowledge in different parts of learning. His style, in Latin, has by some been held to be superior to that of his teacher, Poliziano; but Erasmus thought it too elaborate. Freind says he followed the style of the Epistles and Philosophical Works of Cicero, and endeavoured to express the "elegancy of Terence" and the "neatness of Celsus." Linacre, we are told in Jortin's *Life of Erasmus*, was so accurate, and so superstitiously exact in his compositions, and found it so difficult to satisfy himself, that he had like to have published nothing; which made Erasmus press him earnestly to communicate his labours to the public during his life-time; lest a reserve, which had its origin in caution and modesty, might be attributed to the worse motives of selfishness and ill nature.

Linacre is probably the first Englishman who manifested much acquaintance with the writings of Aristotle; and, in conjunction with John Colet, William Lily, William Grocyn, and William Latimer, in 1497, revived the learning of the ancients in this country. Linacre was the first teacher of the Greek tongue at Oxford; and Grocyn was also devoted to the same in the time of Erasmus. At this period no chair for teaching the finest language of antiquity had been established at this university. It is asserted, that upon the recommendation of Hermalao Barbaro, Linacre, Grocyn, and Latimer undertook a translation of the works of Aristotle, but they never accomplished it. Sir Thomas More was one of Linacre's pupils.

Let us now see more especially the character of his labours to promote medical science. His professional talent does not appear, so much as his classical attainments, and knowledge of general literature, to have procured for him the patronage of the Court; yet there is no reason to doubt that his judgment in medicine was highly esteemed. Among his patients were Sir R. Bray, the Lord High Treasurer, Cardinal Wolsey, Archbishop Warham, the Bishop of Winchester, &c. Caius gives testimony to his ability to practise; and his prognostic, as to the fate of his friend Lily the grammarian, in submitting to the removal of a malignant tumour of the hip, is upon record. Erasmus often consulted him on account of his frequent indispositions, which came early upon him; and, when he was sick at Paris,

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he laments that he had no Linaere to assist him and prescribe for him. "Is aught more acute, more exalted, or more refined than the judgment of Linaere?" says this celebrated man. Linaere founded two lectureships of physic in Oxford, and one at Cambridge; upon which Fuller quaintly remarks, "dutifully his respect to his *mother*, double above his *aunt*." The former were given to Merton College, where more attention was paid to physic than at the other colleges, and the latter to St. John's; and the duty imposed upon the lecturers was to explain Hippocrates and Galen to the students. This is of itself sufficient evidence of the interest felt by Linaere to advance the medical profession; but it is further manifested by an act which will be held in perpetual remembrance—the establishment of the Royal College of Physicians of London. His enlightened mind viewed with distress the condition of the practice of physic in his day. By no legal restraint was its exercise restricted to competent practitioners. He saw it engrossed by illiterate persons, chiefly monks and empirics, whose impositions upon the public were practised with impunity. The words of the charter of the college run thus:—"Before this period, a great multitude of ignorant persons, of whom the greater part had no insight into physic, nor in any other kind of learning; some could not even read the letters on the book, so far forth, that common artificers, as smiths, weavers, and women, boldly and accustomably took upon them great cures, to the high displeasure of God, great infamy of the faculty, and the grievous hurt, damage, and destruction of many of the king's liege people." Previously to the establishment of the College of Physicians, the power of granting authority to practise was vested in the Bishop of London, or the Dean of St. Paul's, for the London district, and by the respective bishops of the other dioceses; persons who could not, by their education, be able to form a correct opinion of the qualifications necessary in a medical practitioner. To place the admission of efficient persons to practise in competent hands, Linaere proposed to establish a College or Corporate Society of Physicians, who should, alone, be entitled to the privilege of admitting all persons whatever to the practice of physic, as well as to the supervising of all prescriptions, and the examination of drugs. Linaere employed his interest with Cardinal Wolsey to procure Letters Patent, in 1518, from Henry VIII.; and these being confirmed by the Parliament, the Royal College of Physicians was founded. The munificence of the crown was confined to the grant of the letters patent; the expenses and provisions for the College were to be defrayed out of his own means, or those who were associated with him in its foundation. The constitution of the College expressly provided for the examination of the candidates intending to practise,

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by the President and three of the Elects, who have power to grant letters testimonial to the qualified, unless they should be graduates of the Universities of Oxford or Cambridge, and who, by that degree, already possessed a right to practise all over England, except within seven miles of London, without taking any license out from the bishop. The ordinances and statutes which the College has been empowered to establish, have, doubtless, tended to elevate the character of the profession, to ensure to the public the attendance of those whose learning and course of study have qualified them for the treatment of disease, and to the suppression of quackery and the impositions of the wicked and ignorant. Linacre was appointed the FIRST PRESIDENT of the College; and he retained the office for the remainder of his life, a period of nearly seven years. The meetings were held at his house, No. 5, Knight Rider Street, Doctor's Commons (known by the name of the Stone House), which, it is said, he bequeathed to the College. The arms of the College are to this day affixed upon the house, and are placed between the two centre windows of the first floor. They were obtained Sept. 20, 1546—Christopher Barker, Garter King at Arms—and consist of, Sable, a hand proper, vested argent, issuant out of clouds in chief of the second, rayonée, Or, feeling the pulse of an arm in fesse, proper, issuant from the sinister side of the shield, vested argent; in base a pomegranate between five demi-fleurs-de-lis bordering the edge of the escutcheon, Or.

Linacre published several works, mathematical, philological, and medical.

1. *Sphæræ Procli, cum Astronomicis*, Venet. apud Aldum. 1499. fol. This translation was dedicated to his pupil, the Prince Arthur.

2. *De Emendata Structura Latini Sermonis*, lib. vi. Lond 1524. 4to. This work was not published until after the author's death, and was recommended by Melancthon. Many additions have appeared: Basil, 1530; Paris, 1532; Leipsic, 1545. Lutetiae apud R. Steph. 1550. Venet. apud Ald. 1557.

3. *Rudimenta Grammatices*. This Latin Grammar was composed for his pupil, the Princess Mary, to whom it is dedicated; and in the preface he says, "that having been appointed by the King to take care of the health of the Princess, and not being able, on account of his own increasing infirmities, to perform the duties of a physician, he bethought himself how he could be of the most use to his illustrious charge. He saw in the Princess a most favourable disposition towards the cultivation of letters, and he therefore devoted himself to the perfection of this treatise on the Rudiments of the Latin Grammar, which might aid her Highness in her studies." This work was translated into Latin by Buchanan; and printed at Paris in 1533, and again in 1546.

The medical works consist of translations from Galen; of which Fuller says, "By his endeavours, Galen speaks better Latine in the translation,

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than he did Greek in the original;" and Erasmus bears a similar testimony. They consist of,

1. *De Sanitate tuenda*. Parisiis. 1517. This work is dedicated to Henry VIII. A presentation copy to Cardinal Wolsey, printed on vellum, of great beauty, is preserved in the British Museum. The arms of the Cardinal are emblazoned and illuminated at the top, and those of Henry VIII. at the bottom, of the title page. A Latin epistle (from which the Autograph accompanying the Portrait of Linacre is taken,) is inserted in this volume; and the following translation of it may be interesting to the medical reader, as it relates to the writings of Galen:—

"To the Reverend Father and Lord in Christ, the Lord Thomas, by Divine providence Priest Cardinal of St. Cecilia, Archbishop of York, Legate of the Apostolic See to England, Primate and Chancellor; Thomas Linacre, physician, presents his dutiful respects.

"I send you, most reverend Father, a copy of my Works, which I lately dedicated to our most illustrious Prince; in order that I may consult your health also as well as his. In so doing, I think that I have the best justification: since you so consult his tranquillity and security, (which not to do would be indeed most unworthy) that no cares of state can effect his health. I wish that your immense occupations would allow you to read through these treatises! You would find, (unless a too great partiality for my own work deceives me) much that would be to your taste; for out of your singular condition, you do not immediately admit every thing, but only that which is recommended by sound reason. Here, there is nothing (as they say) spoken "gratis;" but every thing either discovered by sure experiment, or asserted upon the strongest reasonings, so that not one of these things has been refuted for nearly 1300 years! for so long is it since the age of their author. But whether you read them yourself, and weigh them with your very accurate judgment, or whether he reads them to you, whose duty it is to watch day and night over your health; it will be easily discovered by using what things, and from what abstaining, you will not only be most free from diseases, but even put off old age to the remotest period.—Which alone is a sufficient reward of my labour.

"By these six Commentaries will be understood the whole *rationale* of the diet of the ancients. Of which, if any one shall the less approve, because forsooth it differs from our own, he ought to remember that it has been established by the calculation of those whose wisdom, to this day, in many other concerns of life, cannot be admired too highly. Wherefore we ought the more to suspect our present practice for the very reason that it does not agree with that (of the ancients.) Farewell."

2. *Methodis Medendi vel de Morbis Curandis*, lib. xiv. Paris, 1519. The presentation copies of this work, belonging to Henry VIII. and Cardinal Wolsey, and printed on vellum, are in the library of the British Museum. To these are affixed Latin Epistles.

3. *De Temperamentis et de Inaequali intemperie*, lib. iii. Cantab. 1521. This is inscribed to Pope Leo X., with whom Linacre had studied Latin under Politian.

4. *De Pulsuum Usu*. Lond. 1522. Reprinted by Colbinæus, 1528, with the four books *De Morborum Symptomatibus*. It was dedicated to Cardinal Wolsey, as a New Year's Gift, with wishes for his prosperity and happiness, and with the hope that the work, whose brevity was little proportioned to the importance and ingenuity of its argument, might prove acceptable to him, whose mind was bent on the promotion of learning, and who supplied the place of parent to those who professed it.

5. *De Naturalibus Facultatibus*, lib. iii. Lond. 1523. This was dedicated to his friend and patron, the Archbishop Warham.

6. *De Symptomatum differentiis*, lib. i. *De Symptomatum Causis*, lib. iii. Lond. 1524.

Some of these pieces are of great rarity. Linacre's intimate acquaintance with the Greek language well qualified him to translate Galen into Latin.



A. Mas.

RICHARD MEAD, M.D. F.R.S.

“ Non sibi sed Toti.”

IN the life of Radcliffe, I have already noticed his great attachment to, and recommendation of, Mead; but no two physicians were ever, in character, more opposed to each other, except in one point—that of professional penetration. Radcliffe was blunt, coarse, and violent; Mead polite, polished, and refined. Radcliffe disregarded letters; Mead cultivated them. The elegance of Mead's manners, and his modesty, won, however, upon the rude nature of Radcliffe, and he determined to promote the interests of a highly accomplished scholar. Whatever were the learning and talents of Mead, and they were such as justly to entitle him to all the distinction he enjoyed, there is no doubt that the sanction of Radcliffe, whose practical knowledge was esteemed equal to, if not beyond, its real merits, contributed materially to advance his fortune and fame.

MEAD was descended from a distinguished family in Buckinghamshire, and was born at Stepney, August 2, 1673, being one of a family of fifteen children. His father, Matthew Mead, was a nonconformist divine, and possessed, during the presbyterian power, the cure of the new chapel at Shadwell; from which, however, he was ejected, the second year after the restoration of Charles II. He found a retreat in Holland, and, upon a temporary liberty being granted to the dissenters, he returned, and in 1674 the spacious meeting-house at Stepney was erected for him, and the four large pillars of it were presented by the States of Holland. He was accused, in 1683, of being concerned in the Rye-House Plot; but he satisfactorily vindicated himself in the presence of Charles II., who ordered him to be discharged. He published various sermons.

Richard Mead was the seventh child, and he received his education from his father, assisted by Mr. John Nesbitt, in his own house, for the fortune of Matthew Mead was sufficient to enable him to keep a tutor to assist in the education of his children. Latin, it is said, was taught to him

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“rather by practice than by rules.” In 1688, Mead was placed under the tuition of Mr. Thomas Singleton, and in the following year he studied under the celebrated Grævius, at Utrecht. Medicine being selected for the profession of Mead, he removed to Leyden in 1692, and attended the lectures of Herman on botany, and of Pitcairn on the theory and practice of physic. Mead’s diligence recommended him to the notice of the latter professor, who was not remarkable for conveying instruction to his pupils beyond that of the regular academical courses. He was, however, attached to Mead, and maintained a correspondence with him upon various professional subjects, as will be seen by a reference to the works of Mead. Having completed his course of study at Leyden, where he became acquainted with Boerhaave, and with whom he ever after enjoyed an intimacy, Mead travelled into Italy, in company with his elder brother, Nathaniel, (who distinguished himself by his legal knowledge,) Mr. David Polhill, and Dr. Thomas Pellet, who was president of the College of Physicians in 1739. He took a degree in philosophy and medicine at Padua in August, 1695, which was recognized by the University of Oxford, December 4, 1707, granting by diploma the degree of M.D. to him. He visited Naples, Rome, and Florence. At the latter place he made inquiries for the *Tabula Isiaca*, and, having gained permission to make search for it, he was so fortunate as to find it in a lumber-room, buried in dust and rubbish.

In 1696 he returned to England, and settled in the house in which he was born, (Worcester House,) at Stepney, and continued to practise there during seven years with great success. His reputation must have been considerable, for in 1703 he was chosen Physician to St. Thomas’s Hospital; in 1704 he was elected a Fellow of the Royal Society; in 1706 placed upon the council; and in 1717 appointed by Sir Isaac Newton one of the vice-presidents. Upon his election to St. Thomas’s Hospital, he removed to Crutched Friars, where he resided for seven years; thence he went to Austin Friars, and upon the death of Radeliffe, he inhabited the house of that physician in Bloomsbury-square, upon which he resigned the hospital. He afterwards removed to a spacious mansion in Great Ormond-street, where his museum was formed and arranged, and where were to be found assembled all the literati of this and other countries visiting England. He was admitted a Fellow of the College of Physicians April 9, 1716; was censor in 1716, 1719, and 1724; and declined the Presidency, which was offered to him in 1744. He read lectures on anatomy to the Corporation of Surgeons, at their hall, for several years. He was consulted in the last illness of Queen Anne, saw the extreme danger of the case, and justly predicted her dissolution. In 1727, on the accession of George II., he was

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appointed Physician in Ordinary, and Dr. (afterwards Sir Edward) Wilmot and Dr. F. Nicholls, his sons-in-law, were subsequently associated with him.

The works of Mead are numerous, and they were published in the following order:—

1. *A Mechanical Account of Poisons.* This appeared in 1702. His researches were made many years prior to their publication, and the work went through a great number of editions in London, Dublin, Amsterdam, Leyden, Francfort, Gottingen, Naples, &c., and in various languages. He gives an account of animal, vegetable, and mineral poisons. His opinions underwent considerable change upon this subject, and he had the candour to acknowledge this to its fullest extent, so that the edition of 1747 may be regarded as a new work. He conceived it possible to account for the operation of poisons upon mechanical views, by their admixture with the blood: but of the insufficiency of this explanation he became satisfied; regards his early experiments as having been too precipitately made, and not warranting the conclusions he had drawn from them; in short, he subverts his former hypothesis, and concludes, from the rapidity with which poison can be conveyed into the system, that it must be through no other medium than that of the “animal spirits.” Whatever may have been the value of his researches, they show him to have been an ardent experimenter, a man zealous in the prosecution of physiological experiments, and fearless of danger. His description of the various experiments he made upon vipers, the collection of their poison, his tasting it, &c., manifest a most determined spirit of inquiry, and promoted, too, in an age in which few were to be found of a similar character or description.

2. *A Treatise concerning the Influence of the Sun and Moon upon Human Bodies, and the Diseases thereby produced.* At the time this work was published, the Newtonian philosophy was but imperfectly understood. The book, however, contains many observations of importance in the practice of medicine. The character of the work may be judged of from a quotation from Plato which appears in the advertisement: “Let none unskilled in Geometry enter here.” Editions were published at London, Amsterdam, Leyden, Francfort, and Naples.

3. *A Discourse on the Plague.* From the dedication affixed to this work, it appears to have been composed by the instruction of Mr. Craggs, one of the secretaries of state, and arose from fears entertained for the public safety, lest the disease then so prevalent and so fatal at Marseilles should reach this country. The question as to contagion was as strongly agitated then as it has been in later times. Mead regarded the plague as contagious, and a quarantine was established. The work was, in the first

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instance, in 1720, only "A Short Discourse concerning Pestilential Contagion, and the Methods to be used to Prevent it;" being a manual of directions to be observed in the event of such a visitation. The anxiety felt upon the subject, and the importance attached to Mead's opinions, may be estimated by the fact, that no less than seven editions of his work were published in one year. It was printed in English, Latin, French, and German.

In 1723, Mead was chosen to deliver,

4. *The Harveian Oration* at the College of Physicians, and it was published the following year. He endeavoured in this oration to remove the obloquy thought to be reflected upon the profession by those who maintained the practice of physic at Rome to have been confined to slaves or freed-men, and not deemed worthy of an old Roman. In this oration, Mead shows that the profession had been exercised by the members of several distinguished Roman families. He appended a Dissertation upon some coins struck by the Smyrneans in honour of physicians. Dr. Conyers Middleton replied to Mead, and excited the displeasure of the medical profession by his tract, "*De Medicorum apud Veteres Romanos degentium conditione Dissertatio*," the tendency of which was to degrade the character of the profession. Dr. John Ward, professor of rhetoric in Gresham College, espoused Mead's cause, and a warm controversy ensued. Middleton replied, but seemed rather anxious to withdraw from, than to pursue the subject, and he and Mead afterwards became good friends.

5. Mead's *Discourse on the Small-Pox and Measles*, although written and arranged many years prior to its publication, did not make its appearance until 1747. The preface to his work sufficiently explains its history. In 1708, he had some patients in St. Thomas's Hospital labouring under a very malignant kind of small-pox; they recovered by an extraordinary effort of nature, the occurrence of which was not overlooked by so acute a practitioner as Mead. Upon this, he recommended the use of purgatives in the decline of the disease, a practice he found of great benefit, and he communicated it to Freind, whose approbation it received. The introduction of this practice gave rise to a division of opinion among the faculty as to its propriety, and many books were written respecting it. Dr. Freind printed some letters of Mead, written to him in 1712, on the subject, though he did not print them until 1719. Dr. Woodward warmly attacked him, and this probably laid the basis of that breach of good-will between Woodward and Mead which continued during their lives. To Mead's work on the small-pox, he added a Latin translation from the Arabic of Rhazes' treatise on the disease. Mead was indebted to his friend Boerhaave for

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a copy of the original work. Dr. Mead assisted, by order of the Prince of Wales, in August 1721, at the inoculation of six condemned criminals, who were selected for the experiment, and whose lives were to be spared upon their submission to it. The result was satisfactory, and the two young Princesses, Amelia and Caroline, were inoculated in April 1722, and had the small-pox favourably. Mead's work strongly recommends the practice of inoculation.

6. *Medica Sacra*. The design of this work, printed in 1749, was to account for the diseases mentioned in Scripture upon natural grounds. The demoniacs he looked upon as insane or epileptic persons. Many pamphlets have been published on this subject by Dr. Farmer and others, which are not necessary to be particularized. Mead's work was printed at London, Amsterdam, and Lausanne. It was translated by Stark, under the author's inspection. He died before it was finished, and Memoirs of his Life and Writings were prefixed to it. This is one of the works published by Mead after his retirement from the active duties of his profession. In his preface, he speaks of the strong passion he had for learning, even in his childhood, and, that although he had chosen medicine for his profession, he still never intermitted his literary studies, to which he had recourse as to refreshments, strengthening him in his daily labours, and charming his cares. His works have been collected together, and published at various times, at Gottingen, Paris, and Naples, in 1749; at Leyden, in 1752; at London, in 1762; and at Edinburgh, in 1763.

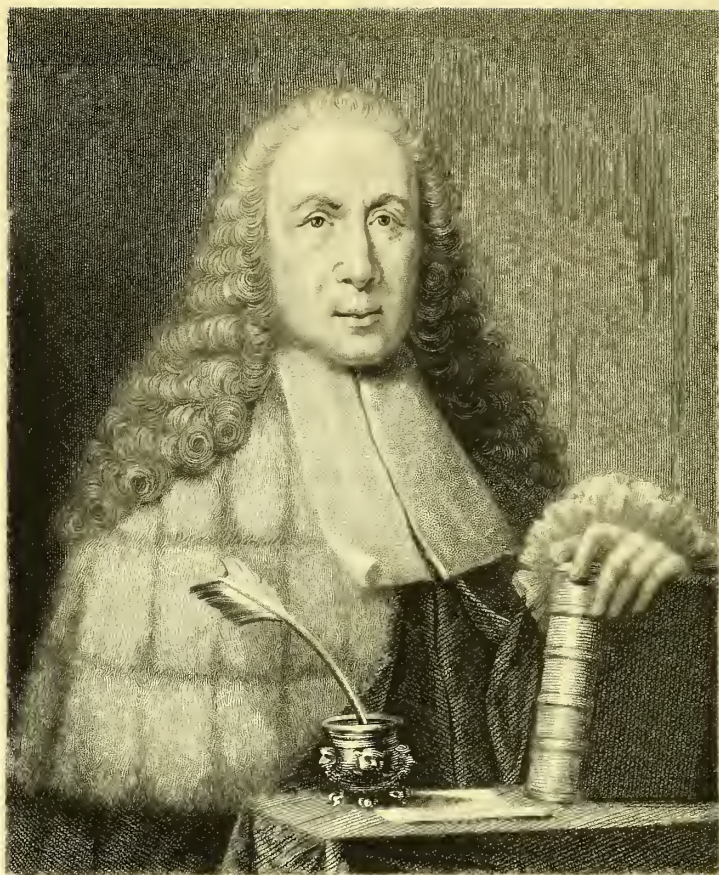
7. *Monita et Præcepta Medica*. This was published in 1751, at London; also at Hamburg, Leipsic, Leyden, and Paris. It has been printed in Latin, English, French, and German. It has also been held in estimation for the precepts it contains relative to the treatment of various diseases, and as being the result of extensive practice and attentive observation.

8. The Philosophical Transactions for 1703 contains an analysis of Bonomo's Letter to Redi, in 1687, relative to the cutaneous worms generating the itch. Also an account of three cases of hydrophobia. Three years previous to his death, which took place on February 16th, 1754, when Mead was in his eighty-first year, his intellectual powers began to decline, and his body became corpulent. Memoirs of his life were published by Dr. Maty, and a collection of Mead's Prescriptions, under the title of *Pharmacopœia Meadiana*, in three parts, in 1756-7-8. Catalogues of his collections of books, antiquities, paintings, drawings, &c. were printed, and are referred to by the collectors of the present day. His library

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but in foreign countries." Of the clergy he was never known, but in one instance, to take a fee. This was of a Mr. Robert Leake, who vexed the Doctor with his importunities to follow the regimen of Dr. Cheyne. Mead required of him ten guineas, but afterwards returned him six. Mead was a liberal subscriber to the Foundling Hospital; and he is reported to have stimulated Guy, the bookseller, to the foundation of the hospital which bears his name.

Mead's habits of life, his manner of receiving and entertaining foreigners and distinguished persons, must have entailed upon him the expenditure of a princely fortune. No foreigner of any consequence visited London without an introduction to Mead, or departed without partaking of his hospitality. He maintained a correspondence with the chief literati of foreign countries, and he became universally renowned for his taste, learning, and science. He commanded respect beyond his contemporaries, and was distinguished in the republic of letters no less than in his own profession.



Joannes Baptista Morgagnus

Patavii Idibus Aprilis MDCCXXVIII.

JOHN BAPTIST MORGAGNI, M.D. F.R.S.

ETC. ETC. ETC.

“*Vir ingenii, memoriæ, studii incomparabilis.*”—HALLER.

VERY few professors of medical science belonging to the seventeenth century have had their names transmitted to posterity with more eclat than the subject of the present memoir. This has arisen from the variety and excellence of his labours; and perhaps no physician is entitled to more praise for placing the treatment of diseases upon sound principles, than John Baptist Morgagni. His observations on morbid anatomy, and the connexion of the appearances presented with the phenomena of disease, hold their value unabated even to the present time, because they were the result of patient and able investigation into the various conditions of the animal economy, both in health and disease.

JOHN BAPTIST MORGAGNI was born at Forli, a town in Italy, on February 25, 1682. He lost his father (Fabricius Morgagni) at a very early age; but his mother, (Marie Tornielli) being a woman of considerable understanding, superintended the education of her son, and cultivated the taste he manifested for study. His progress in the belles lettres and the learned languages was very considerable; and his acquisitions in philosophy, upon subjects of which he composed several theses, published and dedicated to Cardinal Ottoboni, were generally admired, and procured for him much distinction. He, however, selected medicine for his profession, and at the early age of sixteen took his degree of Doctor of Medicine at the University of Bologna. His knowledge of anatomy was such, that at the age of twenty he taught it with great reputation. His teachers were the celebrated Antonio Maria Valsalva, Hippolito Francisco Albertini, and John James de Sandris. His intense application to study excited fears for his safety. His memory is said to have been astonishing, and his judgment was equally powerful, a combination of faculties not often to be met with. An affection of the eyes, the result of continued application, compelled him to abstain

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at Padua, in 1717, and the fourth, fifth, and sixth, also at Padua, in 1719. They were collected and published at Leyden, in 1723-4, and again in 1741, which is the best edition. The *Epistolæ Anatomicæ* and *Nova Institutionum Medicarum Idea*, are not less valuable, and have been frequently printed. The *Nov. Inst. Med. Idea*, formed an introductory discourse on entering upon his professional duties, and points out to the student the best modes of acquiring professional knowledge. The study of anatomy, and the *materia medica*, is ardently enforced. The *Epist. Anat.* are two in number. The first relates to pathological anatomy, and the second is in connexion with a controversy with Bianchi, relative to the intimate structure of the liver. But his chief work is unquestionably *De Sedibus et Causis Morborum per anatomen indagatis*, first printed in 1761, the author being then in his eightieth year. The last edition is that of Paris, by Chaussier and Adelon in 1820, in 8 vols. 8vo. This forms the ninth edition of this very important work, which gives the results of his practice and observation. An exceedingly good translation of it into English, was made by Dr. Benjamin Alexander, and published at London in 3 vols. 4to., in 1769, which work is now very scarce. Morgagni's *Opuscula Miscellanea* are very numerous, and illustrate various parts of the human body, and describe particular diseases. They are too numerous for insertion here, but can easily be referred to by any one anxious to make acquaintance with all the productions of this able physician. In addition to these anatomical and medical treatises, he published also some tracts on medico-legal subjects, and memoirs on the life and writings of his friends Valsalva and Guglielmini. A correct list of his writings is affixed to the Paris edition of his work on "the Seats and Causes of Diseases investigated by anatomy."

The Portrait prefixed to this Memoir is taken from an extremely rare engraving by Renard, in the possession of H. U. Diamond, Esq.; and the autograph, from a letter deposited in the archives of the Royal Society.



Johannes Radstife

JOHN RADCLIFFE, M.D.

“The lawyer is judged by the virtue of his pleading, and not by the issue of the cause. The master of the ship is judged by the directing his course aright, and not by the fortune of the voyage. But the physician, and perhaps the politician, hath no particular acts demonstrative of his ability, but is judged most by the event.”—BACON.

THE biography of this eccentric man has been repeatedly written. He has been described as one “who lived, if any man ever did so, entirely after his own humour, and in the completest disregard of the opinions of the world.” As a practical physician, he was unrivalled. He amassed a large fortune, and he devoted it to the promotion of learning and science. His eccentricities were remarkable, and have been freely circulated. A collection of the various anecdotes related of him would form a very curious and interesting volume.

JOHN RADCLIFFE was a native of Yorkshire, and born at Wakefield in 1650. He received instruction in the Greek and Latin languages at the grammar-school of this town, and when he had reached his fifteenth year, he was sent to University College, Oxford. At this college he took his first degree in arts, and afterwards removed to Lincoln College, of which he was subsequently elected a Fellow. Quickness of intellect, for which he was ever remarkable, enabled him rapidly to acquire information in the several branches of medical study; and having, it is said, made considerable progress in botany, chemistry, and anatomy, he took a degree of M.A. in 1672, and then enrolled himself for medicine. Pretensions to learning, he had none; and whatever deficiency he may have manifested in this respect, was compensated by a wit, vivacity, and shrewdness which characterized every act of his life. He appears, indeed, to have entertained but a mean opinion of the practice of physic, and consulted very few books.* When

* Garth said, humorously enough, that, for Radcliffe to leave a library, was as if “an eunuch should found a seraglio.”

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Dr. Bathurst, the master of Trinity College, visited him, he inquired of him where his study was. To which Radcliffe, pointing to a few phials, a skeleton, and a herbal, replied, "Sir, this is Radcliffe's library." He held that the whole mystery of physic might be written on "half a sheet of paper." This, however, ill comports with that which he is said to have uttered towards the latter part of his life, that, "when a young practitioner, he possessed twenty remedies for every disease; and at the close of his career, he found twenty diseases for which he had not one remedy." This reflection, the result of his extensive experience and penetration, will convey to every member of the profession a most impressive lesson. He entertained an abhorrence of quackery. Among many of the artifices by which the credulous have been imposed upon, the pretensions of the Urinoscopists of former days were not the least significant. A foolish woman, provided with the infallible indication of disease, came to Radcliffe, and, dropping a curtesy, told him that, having heard of his great fame, she made bold to bring him a fee, by which she hoped his worship would be prevailed upon to tell her the distemper her husband lay sick of, and to prescribe the means for his relief. "Where is he?" cries the Doctor. "Sick in bed, four miles off," replies the woman. Taking the vessel, and casting an eye upon its contents, he inquired of the woman what trade the patient was of; and, learning that he was a boot-maker, "Very well," replied the Doctor; and having retired for a moment to make the requisite substitution, "Take this home with you; and if your husband will undertake to fit me with a pair of boots by its inspection, I will make no question of prescribing for his distemper by a similar examination."

In 1675 Radcliffe took his Bachelor's degree in medicine, and began to practise; and in 1682 he received the degree of M.D. He remained at Oxford two years after this, and enjoyed great reputation, notwithstanding the numerous disputes in which he was involved with the older practitioners, who could not tolerate his disregard of all ancient rules and practice. In 1684 he removed to London, and resided in Bow-street, Covent Garden. The chief practice of the metropolis was, at this time, held by Dr. Lower, whose reputation, however, was on the decline, on account of his attachment to Whig principles, (for politics and fashion have ever had much to do with the success of a man in physic,) and in less than a year from his arrival in town, Radcliffe was in the possession of an extensive and lucrative practice, receiving not less than twenty guineas a day. His wit and humour contributed not a little to his popularity, and his society was much courted. The princess Anne of Denmark appointed him her physician in 1686.

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“ His conversation at this time, (says one of his biographers) was held in as good repute as his advice ; and what with his pleasantry of discourse, and readiness of wit in making replies to any sort of questions, he was a diverting companion to the last degree, insomuch, that he was very often sent for, and presented with fees for pretended ailments, when the real design of both sexes, that were equally delighted with him, was to reap advantage by his way of talk. Not but he was often out of humour at being dealt with after that manner, and would frequently give biting replies to such as were pressing with him for his prescriptions upon trifling occasions.”

Radcliffe is said to have been very greedy of his fees, and avaricious in other respects. He had a great love of accumulating riches ; but he was no niggard in their distribution. Thus we find, that, as early as 1687, he was desirous of assisting the college at Oxford at which he was first admitted, and that he caused the eastern window over the altar of University College to be put up at his own expense. This was a magnificent gift : it consists of beautifully painted glass, representing the Nativity of Christ. Beneath is an inscription relating to the donor.—“ D.D. Joan. Radcliffe, M.D. hujus Collegii quondam Socius, A.D. 1687.” This is not strictly correct, as he was senior scholar, but not a fellow of this college. He was a fellow of Lincoln ; but he resigned his fellowship in 1677, owing to the opposition of Dr. Marshall, the rector, against whom Radcliffe had uttered some pleasantries, and who, in revenge, opposed the Doctor’s application for a faculty place, to dispense with his taking holy orders, which the statutes of the college required that he should do.

No man was ever less calculated than Radcliffe to be a courtier, for his freedom often amounted to insolence ; yet he was much employed at court. This must have arisen from his celebrity as a practitioner. The love of person and ease, and the hope of averting pain and death, have never failed to operate with great power in kings and potentates. After the Revolution, he was much about the person of King William, and his court. When that sovereign returned from Holland in 1699, he was seriously indisposed, and he sent for Radcliffe, and showed him his ankles, which were very much swollen, whilst the other parts of his body were greatly emaciated. “ What think you of these ? ” “ Why, truly,” replied the physician, “ I would not have your majesty’s two legs for your three kingdoms ; ” which freedom so lost the king’s favour, that no intercessions could ever recover it. The king’s employment of Radcliffe arose, in the first instance, from his gratitude for the recovery of two of his favourites, Mr. Bentinck,* and Mr. Zulestein,† and for which the physician was presented by the king with 500 guineas, and an offer to be one of his majesty’s physicians, with a salary of £200 more than any other. Radcliffe accepted the present, but declined

* Afterwards Earl of Portland.

† Afterwards Earl of Rochford.

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the appointment, it is conjectured from worldly motives, the settlement of the crown being then in its infancy, and its security likely to be disturbed by any accident. The weakness of the constitution of the king, however, rendered Radcliffe's visits of necessary frequency; and it is said, that, for the first eleven years of his majesty's reign, the physician received upwards of 600 guineas annually.

In 1695, he was sent abroad to attend the Earl of Albemarle, a great favourite of his majesty, and who had a considerable command in the army, during the campaign which ended with the taking of Namur. Radcliffe remained in the camp a week only; was successful in the treatment of his patient, and received from King William £1,200; and from Lord Albermarle 400 guineas, and a diamond ring; he was offered also the dignity of a baronet, which he begged to decline, on the plea of having no children to inherit the title. The humour possessed by Radcliffe, is illustrated by an anecdote told by Pittis, his biographer, upon occasion of an interview with the king, relative to his state of health.

"The king, when the Doctor was admitted, was reading Sir Roger L'Estrange's new version of *Æsop's Fables*, and told him, that he had once more sent for him, to try the effects of his great skill, notwithstanding he had been told by his body-physicians, who were not sensible of his inward decay, that he might yet live many years, and would very speedily recover. Upon which the Doctor, having put some interrogatories to the king, very readily asked leave of his majesty to turn to a fable in the book before him, which would let the king know how he had been treated, and read it to him in these words:—'Pray, sir, how do you find yourself?' says the doctor to his patient. 'Why, truly,' says the patient, 'I have had a most violent sweat.' 'Oh! the best sign in the world,' quoth the doctor. And then a little while after, he is at it again, with a 'Pray how do you find your body?' 'Alas!' says the other, 'I have just now had such a terrible fit of horror and shaking upon me!' 'Why, this is all as it should be,' says the physician, 'it shows a mighty strength of nature.' And then he comes over him the third time with the same question again: 'Why, I am all swelled,' says t'other, 'as if I had a dropsy.' 'Best of all,' quoth the doctor, and goes his way. Soon after this, comes one of the sick man's friends to him, with the same question, 'How he felt himself?' 'Why, truly, so well,' says he, 'that I am e'en ready to die of I know not how *many good signs and tokens*.'

"May it please your majesty, yours and the sick man's case is the very same," cries Radcliffe—"you are buoyed up with hopes that your malady will soon be driven away, by persons that are not apprized of means to do it, and know not the true cause of your ailment; but I must be plain with you, and tell you that, in all probability, if your majesty will adhere to my prescriptions, it may be in my power to lengthen out your life for three or four years; but beyond that time, nothing in physic can protract it, for the juices of your stomach are all vitiated; your whole mass of blood is corrupted, and your nutriment, for the most part, turns to water. However, if your majesty will forbear making long visits to the Earl of Bradford, (where the king was wont to drink very hard,) I'll try what can be done to make you live easily, tho' I cannot venture to say I can make you live longer than I have told you.' He then left a recipe behind him, which was so happy in its effects, as to enable the king, not only to make a progress in the western parts of his kingdom, but to go abroad, and divert himself at his palace at Loo, in Holland."

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Radcliffe is reported to have attended the lady of Sir John Holt in a severe illness, with unusual diligence, and to have said that he did so out of pique to the husband, who was supposed not to be over fond of her. Many instances of the caprice of Radcliffe are upon record. Bishop Atterbury relates, that when the lady of Sir John Trevor, the Master of the Rolls, was dying, she was given over by Radcliffe as incurable. The master, thinking it a compliment to Radcliffe, not to join any of the London physicians with him, sent to Oxford for Dr. Breach, an old crony, to consult on that occasion; which made such a *breach* with Radcliffe, that he set out in a few days for Bath, where he is represented "as delighting scarce in any other company but that of papists." Richardson relates the following of Radcliffe and his successor Mead.

" 'Mead, I love you,' says Radcliffe, 'and now I will tell you a sure secret to make your fortune; use all mankind ill.' And it certainly was his own practice. He owned he was avaricious, even to spunging, whenever he any way could, at a tavern reckoning, a sixpence or shilling among the rest of the company, under pretence of hating (as he ever did) to change a guinea, 'because (said he) it slips away so fast.' He could never be brought to pay bills without much following and importunity; nor then, if there appeared any chance of wearying them out. A paviour, after long and fruitless attempts, caught him just getting out of his chariot at his own door, in Bloomsbury-square, (where he had removed from Bow-street,) and set upon him. 'Why, you rascal,' said the Doctor, 'do you pretend to be paid for such a piece of work? why, you have spoiled my pavement, and then covered it over with earth to hide your bad work.' 'Doctor,' said the paviour, 'mine is not the only bad work that the earth hides.' 'You dog you,' said the Doctor, 'are you a wit? you must be poor, come in,'—and paid him. 'Nobody,' adds Mr. Richardson, 'ever practised this rule 'of using all mankind ill,' less than Dr. Mead, (who told me himself the story,) and who has, I have been informed by great physicians, got as much again by his practice as Dr. Radcliffe did.'"

An anecdote must here be related of the Doctor and Sir Godfrey Kneller.

"When Radcliffe resided in Bow-street, his garden-wall was contiguous to that of Sir Godfrey's, who was remarkable for his collection of exotic and choice plants, of which the Doctor was a great admirer, and he solicited of the great painter, with whom he enjoyed an intimacy, to permit a door to be made for free intercourse with both gardens, but in such a manner, that no inconvenience should be experienced by either family. Sir Godfrey most readily consented to the proposal; but the Doctor's servants took such liberties, and occasioned such destruction of Sir Godfrey's plants, that he was under the necessity of complaining to the Doctor, who, however, took no notice of the matter. Upon which, the painter sent word by one of his servants, that he should be obliged to brick up the door; a threat that roused Radcliffe's choler, who sent a message back, that Sir Godfrey 'might do what he thought fit, in relation to the door, so that he *didn't paint it*.' The servant for some time hesitated to deliver this impertinent reply; but being commanded by Sir Godfrey to deliver it word for word, which being done, the painter directed him to return to the Doctor, present his service to him, and say that he could take *any thing from him but physic*."

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passages where the Doctor was affronted, were received with great applause." Radcliffe was also ridiculed by Steele in the *Tatler*,* under the title of "The Mourning *Æsculapius*, the languishing hopeless lover of the divine Hebe, emblem of youth and beauty." A lady, it is said, had been attended by Radcliffe in a fever; he was smitten by her charms, urged his suit, but was rejected. He never married; but in 1693 was upon the point of contracting an union with the only daughter of a wealthy citizen; but before the conclusion of the affair, Radcliffe ascertained that the lady had not been spotless; and the discovery of an intrigue with her father's book-keeper, put aside the connexion.

In 1703 Radcliffe had an attack of pleurisy, which had nigh proved fatal to him, and partly from his own imprudence, for he neglected himself at the outset of the disease, and indulged in free potations; and, had it not been for the vigorous treatment of Mr. Bernard, the serjeant-surgeon, who took from him 100 ounces of blood, he would probably have sunk under the attack. He was fully sensible of his danger, and made his will, leaving the greatest part of his estate to charity, and several thousand pounds for the relief of sick seamen set ashore. His obstinacy manifested itself throughout, for, having lost the quantity of blood stated, he resolved upon being removed to Kensington, and was taken thither in a chair by four men, and during the journey he fainted away. Dr. Atterbury relates these particulars, and says that he slept immediately afterwards, and that he was likely to do well; "so that the town physicians, who expected to share his practice, begin now to think themselves disappointed." Serjeant-surgeon Bernard, in reply to the inquiries of the queen, related his ungovernable conduct, upon which her majesty remarked, that "nobody had reason to take any thing ill from him, since it was plain he used other people no worse than he used himself." The effect of this severe attack was, however, to make him serious, and he is described as being "very devout."

About the time the bishops were sent to the Tower, Radcliffe was much tormented to turn Papist. Mr. Obadiah Walker, of Trinity College, urged him strongly on this subject; to which Radcliffe made a frank and noble reply. He says:—

"I should be in as unhappy a condition in this life, as you fear I shall be in the next, were I to be treated as a turn-coat; and must tell you, that I can be serious no longer, while you endeavour to make me believe what, I am apt to think, you give no credit to yourself. Fathers, and councils, and antique authorities, may have their influence in their proper places; but should any of them all, though covered with dust 1400 years ago, tell me, that the bottle I am now drinking with some of your acquaintance is a wheelbarrow, and the glass in my hand a salamander, I should ask leave to dissent from them all."

* No. 44.

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Mr. Walker fell into great poverty and distress, and Radcliffe very generously allowed him, to the day of his death, a handsome competency, and had him, after death, creditably interred.

Radcliffe thought that "it was more the business of a bishop and a statesman, to make curious researches into matters of revelation, than of a physician; and he besought his majesty, who had sent to him in anxiety that he should become a Roman Catholic, out of his grace and favour to all his loving subjects, to let him continue in the religion of the latter, which would neither endanger his government in church nor state."

In the Lansdowne MSS. contained in the British Museum, and marked 979, among Bishop Kennett's collection, I find the following anecdote :

"I remember what Dr. Mede has told to several of his friends, that he fell much into the favour of Dr. Radcliffe a few years before his death, and visited him often at Carshalton, where he observed upon occasion that there was no Bible to be found in the house. Dr. Mede had a mind to supply that defect, without taking notice of it; and therefore one day carried down with him a very beautiful Bible that he had lately bought, which had lain in a closet of King William for his Maj^{ty}'s own use, and left it as a curiosity that he had pickt up by the way. When Dr. Mede made the last visit to him, he found that Dr. R. had read in it as far as about the middle of the Book of Exodus, from whence it might be inferred that he had never before read the Scriptures; as I doubt must be inferred of Dr. Linacre, from the account given by Sir John Cheke."

Radcliffe entertained great respect for the clergy, and bestowed his patronage with judgment. He promoted Dr. Bingham to the living of Headbourne-worthy, Hants, and Dr. Hudson was advanced to the headship of St. Mary's Hall by his influence and solicitation. His attachment to and respect for this gentleman is said to have occasioned the display of that munificence towards Oxford by which his memory will be held in remembrance. He left his estate in Yorkshire to University College in trust for the foundation of two travelling fellowships, and for the purchase of perpetual advowsons for the members of the said college. He left also £5000 for the enlargement of the building of the same college, £40,000 for the building of a library, £150 per annum to the librarian, and £100 per annum for the purchase of books. *Munus Apolline dignum.*—HOR.

His estates in Buckinghamshire, Northamptonshire, Surrey, &c., were left to his executors for charitable purposes, as they should think best. The Radcliffe Infirmary and the Observatory have been built from these funds, and in 1825 the trustees very properly devoted £2000 towards the building of the present College of Physicians in Pall-Mall East, and £2700 to defray the expenses of completing the Oxford Lunatic Asylum. He left to St. Bartholomew's Hospital £500 per annum towards mending their diet, and £100 per annum for the purchase of linen. His private charities during his life

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were not inconsiderable. He gave various sums in fictitious names, that the donor might not be known; he subscribed liberally to a collection for propagating the Gospel in foreign parts, and to the relief of the poor non-juring clergy, and also to the Episcopalians in Scotland, persecuted by the Presbyterian clergy. He assisted also the celebrated Dr. Sacheverell.

His practice must have been excessive,* to have accumulated so large a fortune, and many instances of large fees received by him have been recorded. In addition to those which have already been mentioned, he received 1000 guineas for attending the young Prince William, Duke of Gloucester, in 1691. He lost £5000 in a speculation he made in a venture to the East Indies; the vessel, upon its return, being captured, and the property lost. He was induced to this act by Betterton, the tragedian, who was ruined by the event. When Radcliffe heard of his loss, he was enjoying himself at the Bull's Head Tavern, in Clare Market, and he desired his companions not to interrupt the circulation of the glass, "for that he had no more to do but to go up so many pair of stairs, to make himself whole again."

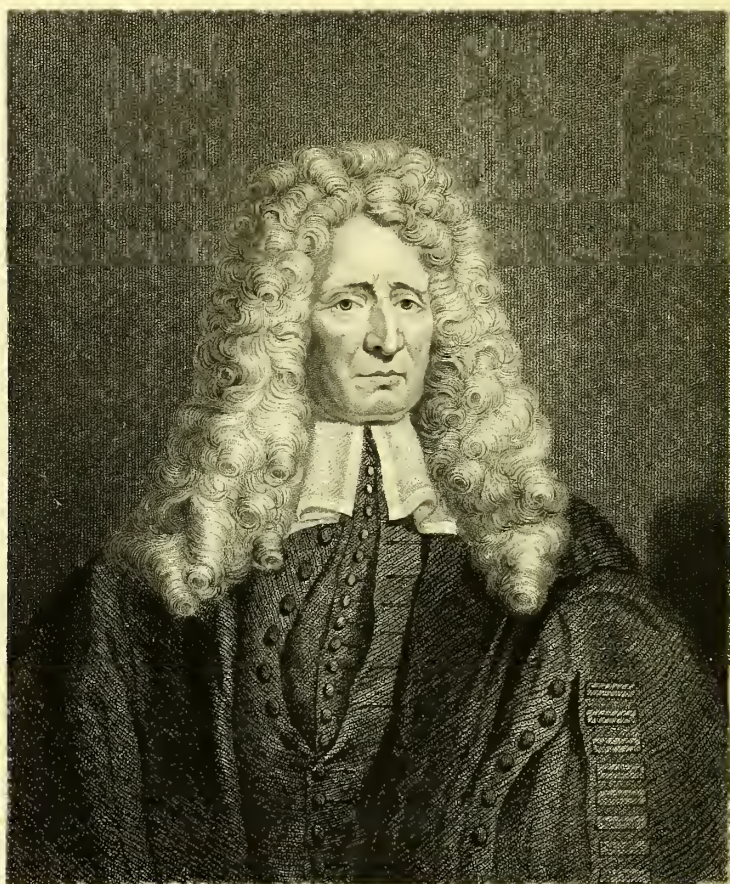
His body lay in state at his residence until the 27th of November, when it was removed to Oxford for burial in St. Mary's Church. Another lying-in state here took place, and a very imposing ceremonial was observed on occasion of his funeral. On the coffin-plate was simply inscribed—

JOHN RADCLIFFE, M.D.
DIED NOVEMBER THE 1ST, 1714,
IN THE 65TH YEAR
OF HIS AGE.

A gold-headed cane is deposited in the library of the Royal College of Physicians, said to be that with which Radcliffe was wont to visit his patients. It was given to Mead, and successively passed to Askew, Pitcairn, and Baillie, by whom it was bequeathed to the College. A very amusing and clever work, embodying the principal occurrences in the lives of these five celebrated physicians, was a few years since published, under the title of "The Gold-headed Cane." The work is attributed to the pen of Dr. Macmichael.

Of professional works, Radcliffe left none. A *Pharmacopœia Radcliffiana* was published in 1716, and Dr. Strother put forth a *Practical Dispensatory*, containing a number of the prescriptions of Radcliffe. *Memoirs of his Life*, interspersed with letters, and accompanied by a copy of his will, were printed in 1715, 1716, and 1736.

* Dandridge, the apothecary patronized by Radcliffe, is reported to have died worth £50,000.



Gotlieb Tumb,
am/ward 19 Jpri 1731 Dr Kay/ch.

FREDERIC RUYSCH, M.D. F.R.S.

“Utilium sagax rerum.”—HOR.

THE name of FREDERIC RUYSCH is celebrated in the annals of anatomy and medicine. His father, Henry Ruysch, was secretary of the States General of Holland. Frederic was born at the Hague, March 23, 1638. Having studied at Leyden, and being destined for the medical profession, he devoted himself with uncommon assiduity to the study of anatomy. He took his Doctor's degree in 1664, returned to the Hague, married, and entered into practice. Shortly after this, Holland was visited by the plague: it raged with the greatest fury, and young Ruysch was selected by the States to take the charge of the cases that occurred at the Hague. He performed the painful and onerous duties connected with such a position, to the entire satisfaction of his fellow-citizens.

His first work, “*Dilucidatio Valvularum in Vasis Lymphaticis*,” was published in 1665, and again in 1687; and this work contained an account of the controversy in which he had, at the instance of Sylvius and Van Horne, been engaged with Louis de Bils, relative to his proposed method of preserving bodies from putrefaction, and which inquiry produced certain discoveries in the lymphatic system. Ruysch lays claim to being the discoverer and demonstrator of the valves belonging to this system of vessels; but he admits that they might have been seen previously by other anatomists. The publication of this work tended to increase the reputation he had already acquired; and he was, in the succeeding year, invited to the chair of anatomy at Amsterdam. He now determined to devote his life principally to this essential branch of medical study; and human and comparative anatomy were alike the objects of his profound attention. His minute dissertations have never been surpassed, nor his ability in the various modes of making anatomical preparations. His injections have been surprisingly minute, and have served to display the most elaborate

FREDERIC RUYSCH, M.D.

structure of the human body. His success in the injection of the blood-vessels was such as fairly to warrant the epithet "marvellous," which has been applied to them. The extreme branches were so well filled as to give to the dead body "the freshness of youth, and to imitate sleep rather than death."* Reginald de Graaf was the first to employ the syringe to aid researches into the anatomical structure of human bodies; and to him and Swammerdam are generally attributed the adoption of coloured injection into the vessels; and to Ruysch, Swammerdam is said to have imparted his knowledge upon quitting the paths of medicine and philosophy for the mysteries and superstition of Bourignon. An instance of the success of Ruysch in the preparation of bodies by injection, is recorded in the case of Admiral Berkeley, who was killed in an action between the English and Dutch fleets on the 11th of June, 1666. The body of the admiral was rapidly advancing to putrefaction, and was therefore, by order of the States General, submitted to Ruysch for injection, to prevent further corruption. In this he succeeded so well, that it came out of his hands so improved and so fresh, that it was transmitted to England, and the operator rewarded handsomely for the exercise of his ingenious talent. A museum formed with such ability could not fail to be exceedingly attractive, and it was visited by the learned from all parts of the world. The czar Peter, in his journey through Holland in 1698, spent many days in the museum of Ruysch, partook of his frugal fare, and in 1717 arranged for the purchase of the collection for the sum of 30,000 florins, and consigned it to Petersburg. The czar is reported to have been so delighted with the preparations, that he could not withhold from kissing a dead infant which appeared to smile upon him.

In 1691, Ruysch published in 4to., "*Observationum Anatomico-Chirurgicarum Centuria*;" to which he added, a catalogue of the rarities contained in his collection. In 1710, the "*Thesaurus Anatomicus*," 2 tom. 4to.; also the "*Thesaurus Animalium*:" and between the years 1717 and 1723, his "*Adversaria Anatomico-Medico-Chirurgica*." The "*Epistolæ*

* "Tous les cadavres qu'il a injectés avoient le lustre, l'éclat, et la fraîcheur de la jeunesse : on les auroit pris pour des personnes vivantes profondément endormies, et à considérer les membres articulés, on les auroit cru prêts à marcher. Enfin on pourroit presque dire que Ruysch avoit découvert le secret de ressusciter les morts. Ses momies étoient un spectacle de vie, au-lieu que celles des Egyptiens n'offroient que l'image de la mort. L'homme sembloit continuer de vivre dans les unes et continuer de mourir dans les autres!"—Eloy, Dict. Hist.

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Anatomicæ" were published in several parts at different times. The whole of his works have been collected, and published in 5 vols. 4to. as, "*Opera Omnia Anatomico-Medico-Chirurgica*," in 1721 and 1735. The latter is the best edition.

The minute dissections of Ruysch, and the length of time devoted by him to their display, doubtless rendered him incapable of devoting much time to reading, and probably led him to claim the discovery of many parts previously noticed by other observers. This brought him into many disputes, so that no name, as a controversialist in anatomical matters, is more familiar than that of Ruysch. His merits must, however, be admitted, for his researches into the course and communications of the bronchial arteries, the vascularity of the brain, the structure of the tunica arachnoidea, and the formation of the glandular system. His discoveries as to the structure of parts of the eye and ear also entitle him to regard. He was appointed Professor of Physic in 1685, and he filled the chair for forty-three years; when, from a fall in his chamber, he fractured his thigh-bone, and became disabled for farther exertion. He was highly esteemed abroad, and was elected a Fellow of the Royal Society of London; and he was the successor of the immortal Sir Isaac Newton in the Academy of Sciences of Paris. He was also a Member of the Academy of Petersburg. He died of fever, February 22d, 1731, having reached the advanced age of ninety-three years.

Ruysch possessed the confidence of the ministers of his country. He was their forensic physician, and he also presided over the establishment for midwifery. He paid much attention to botany, and dissected plants with the same precision as bodies belonging to the animal kingdom. He filled the botanical chair; and he put forth, at the age of ninety, "*Curæ renovatæ, seu Thesaurus Anatomicus post curas posteriores novus*," which relates particularly to these researches. At eighty years of age he had the hardiness to commence the formation of another museum, and succeeded in accomplishing his object, and he even made a catalogue of the collection.

Posterity has not been remiss in assigning to Ruysch the merit due to him for his laborious anatomical researches, nor niggardly in bestowing praise upon the excellence and beauty of his preparations. According to all accounts, no collection ever contained such specimens; and some varieties in the mode of their preparation, from those usually adopted by anatomists, must have been employed. Reproach, deserved reproach, hangs upon the memory of this physician, for having allowed his secret to be buried with him in the grave. His son, Henry Ruysch, also a physician, and the assistant of his father in the formation of his museum,

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died four years previously to his father, and all means of procuring information upon the subject was lost. From recent researches it would appear probable that the preservative agent employed by Ruysch was arsenic, which so powerfully resists animal decomposition. The extraordinary effect of this otherwise destructive mineral substance has been remarkably shewn in a late case of trial for poisoning, in which it was found, that from the administration of arsenic, the stomach and bowels of the individual to whom it had been wickedly given, were so preserved, as to lead to the detection and conviction of the murderer. Mr. William Pettigrew has been in the habit, in the course of his dissections, of injecting into different parts of the human body a weak solution of arsenic, the effect of which is to resist putrefaction, and render haste unnecessary in the pursuit of anatomical inquiry. He has found a limb, at the expiration of two months, as well fitted for the purposes of dissection, as at the time usually selected after decease.

Upon the death of Ruysch, his museum was publicly sold, and the King of Poland devoted 20,000 florins to the purchase of a part, which was at Wittenburg in the time of Haller.

MEDICAL PORTRAIT GALLERY.

BIOGRAPHICAL MEMOIRS

OF THE MOST CELEBRATED

PHYSICIANS, SURGEONS,

ETC. ETC.

WHO HAVE CONTRIBUTED TO

THE ADVANCEMENT OF MEDICAL SCIENCE.

BY

THOMAS JOSEPH PETTIGREW, F.R.S. F.A.S. F.L.S.

Member of the Royal College of Surgeons; Surgeon to the Asylum for Female Orphans; Late Senior Surgeon of the Charing Cross Hospital; Lecturer on Anatomy, Physiology, and Pathology; and on the Principles and Practice of Surgery; Doctor of Philosophy of the University of Gottingen; Member of the Royal Asiatic, Entomological, Numismatic, and other Societies; Corresponding Member of the Academy of Arts, Sciences, and Belles Lettres, Dijon; Société Academique de Médecine of Marseilles; &c. &c.

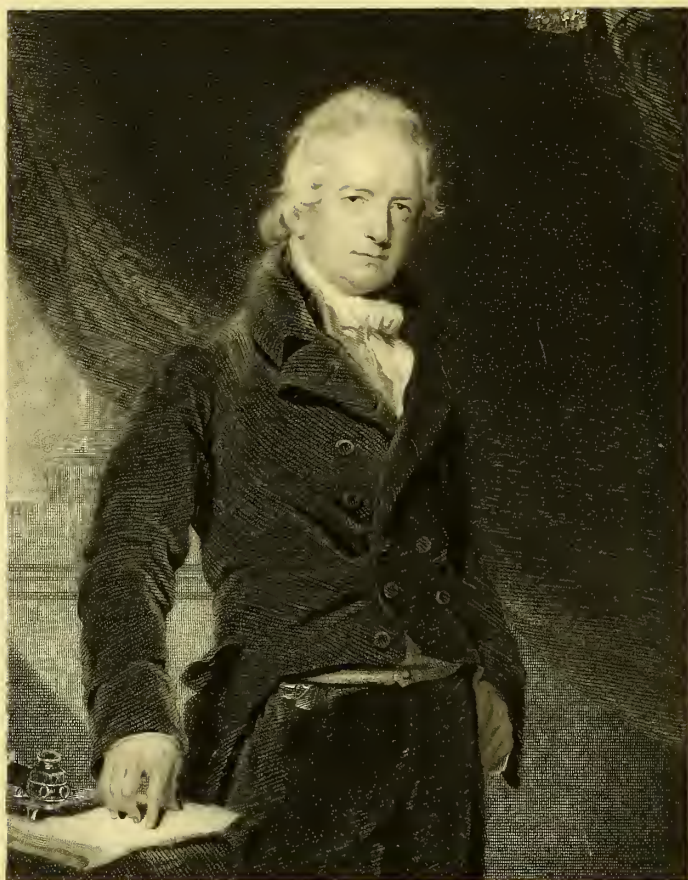
“APOLLINEO NOMINA DIGNA CHORO.”

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JOHN ABERNETHY, F.R.S.

§c. §c. §c.

“ He shines eccentric, like a comet’s blaze !” SAVAGE.

THERE is, perhaps, no professional name more generally known than that of the subject of this memoir; his talents have been fully acknowledged, and his genius admitted; yet, of the circumstances connected with his birth and education, both the profession and the public appear to be in almost complete ignorance. The place of his nativity seems even not to have been clearly ascertained: for, on the one hand, he is represented to have derived his existence in the town of Abernethy in Scotland, whilst, on the other, he is said to have been born at Derry in Ireland. I can, however, state, that neither Scotland nor Ireland can be allowed the honour of claiming John Abernethy as one of their sons. He was born in London, on the site of Finsbury-square, I understand in the year 1765. His father was a native of Scotland, and his mother of Ireland. His uncle is known in the literary and theological world by a published volume of tracts and sermons; and Mr. Abernethy had a portrait of this divine, which was suspended in one of the rooms of his house in Bedford-row.

Of the particulars of his general education, I only know that he was placed at a school in Lothbury. There is no evidence of his being distinguished by any high classical attainments, nor did he pretend to any such excellence. Upwards of twenty years have now elapsed, since he applied to me, as the Registrar of the Medical Society of London, relative to the supposed knowledge of the Small Pox by Galen; and he had a reference to a passage in the writings of that great physician, which he was desirous of consulting on the subject. I placed before him one of the volumes of the works of this author, containing the passage; and when he saw that it was entirely in Greek, he blew a long whistle, and called out, “Pooh! pooh! I can’t read Galen in Greek; I never read Galen in Greek; you must translate it for me.” High classical attainments are not, it is well known, necessary to success in surgery or medicine; in these sciences, the senses must be particularly exercised—the observation of nature, in all her operations, must be cultivated with peculiar care, and the connexion of cause and effect must be steadily traced. By these alone can the acquisition of sound professional knowledge be secured. Classical attainments, however, serve to exalt the mind—to enlarge, to regulate, and to embellish it,

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Poor Curran's sufferings sprang, unfortunately, from his irregularities; and I cannot forbear recording that which passed at the last interview I had with him, which was in the waiting-room of the Duke of Sussex's apartments in Kensington palace, but a few weeks before his death. I had formerly seen much of him, and it was in gay, jovial, and learned society—associated with men of genius and eccentricity, whose irregularities, like those of Curran, served but to render them more delightful. Not having seen him for some time, we mutually inquired after our old acquaintances; and I was induced to express my regret that the love of opium in one remarkable instance, and the love of drink in others, had operated so unfavourably upon the health and fortunes of those we esteemed and loved. I could not help expressing my astonishment in relation to one individual in particular, that no warning would operate, and that nothing would divert him from his dreadful course of inebriety; upon which Curran stopped me short with this remark: "Oh, Mr. Pettigrew, there is a great pleasure in *getting* drunk; if it were not for three things, I would be drunk every night of my life." "Ah! Mr. Curran, what may these three things be?" I inquired. "Why, Sir," says he, "in the first place, the *sin*;" that I knew would not operate very powerfully with my friend—"in the second, the *shame*;" that was not likely much more to deter him—"and in the third," he added, in his own peculiar manner, "the *sickness*." Alas! I fear the state of the digestive organs took Curran—the eloquent and the witty Curran—to Abernethy, and gave rise to the anecdote I have just narrated.

It would be easy to extend this sketch by the introduction of further anecdotes told of the eccentricity of Mr. Abernethy. The newspapers and the magazines have already detailed them; and perhaps there would be some difficulty in separating the true from the false: for when any one has obtained the reputation of saying that which is strikingly singular or witty, a multitude of things are then passed currently with his name. The object of this memoir is not to detail personal character farther than connected with professional conduct; and that which has already been adduced, is I trust, sufficient for this purpose. I will not attempt to justify the conduct of Mr. A. towards the persons consulting him; his impatience was uncontrollable, and it manifested itself in acts of great rudeness towards those who had no means of defence, and whose condition, from bodily infirmity, ill qualified them to sustain it. I believe that the impatience manifested at his own residence frequently arose from his anxiety to be at the hospital for the performance of his duties; and instead of representing this in proper terms to his patients, he would almost take them by the shoulders, and push them from his door. Sir Astley Cooper could tell, if he were so disposed, a variety of curious instances of this sort; for his income was materially increased by the fees received from those who had either quitted Mr. Abernethy in disgust, or felt unequal to the contest with such an antagonist.

But the lecture-room was the grand theatre upon which Mr. Abernethy displayed; there, indeed, he "shone eccentric, like a comet's blaze" and there he would indulge his disposition and propensities to an extent which occasioned the pupils frequently to regard it as an exhibition, and call it an "Abernethy at Home." His mode of entering the lecture-room was often irresistibly droll—his hands buried deep in his breeches-pockets, his

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body bent slouchingly forward, blowing or whistling, his eyes twinkling beneath their arches, and his lower jaw thrown considerably beneath the upper. Then he would cast himself into a chair, swing one of his legs over an arm of it, and commence his lecture in the most *outré* manner. The abruptness, however, never failed to command silence, and rivet attention.

“ ‘The Count was wounded in the arm—the bullet had sunk deep into the flesh—it was, however, extracted—and he is now in a fair way of recovery.’ That will do very well for a novel, but it won’t do for us, Gentlemen: for ‘Sir Ralph Abercromby received a ball in the thick part of his thigh, and it buried itself deep, deep: and it got among important parts, and it couldn’t be felt; but the surgeons, nothing daunted, groped, and groped, and groped, and groped,——and Sir Ralph died.’ ”

Then he would enter upon an admirable discourse on the nature of gunshot wounds—their peculiar character—the course they followed—and he would reprobate, in the strongest manner, the impropriety and danger of seeking after balls in deep-seated parts, or in the cavities of the human body. Then he would contrast the improvements that had been made by the moderns over the practice of the ancients; and, by the relation of often ludicrous and always interesting anecdotes, fix the subject on the minds of his pupils in the most indelible manner.

Mr. Abernethy had occasionally a most fearful practice of thinking aloud. On the day of one of his introductory lectures, when the theatre of St. Bartholomew was as full as it could possibly be, and the cheering upon his appearance had subsided, he was observed casting his eyes around, seemingly insensible to the applause with which he had been greeted, and he exclaimed with great feeling and pathos, “God help you all! what is to become of you!” evidently much moved by the appearance of so great a number of medical students seeking for information to be fitted for practice. He truly entertained a deep sense of the responsibility which attaches to the medical practitioner, as he felt fully the variety of knowledge such a profession demands. Anatomy, he held of the first importance: he declared it to be the only foundation on which the structure of medical science could be built, and that without it we should but increase the sufferings of those afflicted with diseases, and endanger their lives. In his Hunterian Oration, he says:—

“How absurd should we deem the conduct of a mechanic, whose business it was to rectify the errors of any complex machine, should he merely provide himself with the finest and fittest tools for the purpose, and neglect to learn its mechanism, by which alone he can be able to discover the causes of the error, or stoppage of its different movements, and consequently, what is wanting to be done to render it again perfect or useful. Yet equally absurd would be the conduct of medical men, were they to study botany, pharmacy, chemistry, and natural philosophy, searching, indeed, through all the paths of nature, and the stores of art, for means of cure, and yet neglect anatomy, by which alone they can be able to distinguish the nature of the difference between health and disease, and, consequently, what is requisite to reconvert the latter into the former; which is the only circumstance that can render medicine a science.”

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Mr. Abernethy lost no opportunity of impressing upon the minds of his pupils the importance of their duties, and the necessity of study and careful observation—lessons he had himself derived from his teachers.

Mr. Abernethy was the apprentice of Mr., afterwards Sir Charles Blicke, one of the surgeons of St. Bartholomew's Hospital. He attended not only the lectures of Sir William Blizard and Mr. John Hunter, as already noticed, but also those given by Mr. Hewson and Mr. Falconar. He must also, I presume, have attended Mr. Pott, as attached to the hospital of St. Bartholomew. Such a mind as that possessed by Mr. A. would seek for information from every quarter—he would be anxious to “light his torch at every man's candle.” Mr. Hunter appears to have appreciated the talents of his pupil, for he invited him to come, and sit and talk with him: and Mr. A. has lamented that, not then forming a proper estimate of the information he should obtain from such an intercourse, he did not avail himself of this invitation to a greater degree.

Upon the retirement of Mr. Pott from the hospital, Mr. Abernethy was appointed assistant-surgeon; a post he occupied for the extraordinary period of twenty-eight years. He did not become one of the surgeons-in-chief until the death of Sir Charles Blicke, and upon this occasion he printed an address to the president and governors of the hospital, in which he points out what he considers to be the degree both of bodily and mental vigour requisite for the performance of the surgical duties, and suggests that no one beyond a certain age should be permitted to continue as actual surgeon, but that he should become consulting or superintending surgeon, with certain emoluments as a proper reward for his previous labours. He contends that there is a period of our lives, when we lose both the disposition and the power to advance in knowledge; and that, consequently, the practice of an old surgeon will remain, as it were, stationary after that period; and, as he looks upon surgery as a progressive science, that the practice, therefore, of old surgeons, will not keep pace with the advancing improvements. To be an efficient surgeon, the sight must be acute, the hand steady and pliant, and the mind capable of the most vivid and fixed attention.

Upon his appointment as assistant-surgeon, he began to lecture on anatomy and surgery. He had at first but a small class, from the popularity of Dr. Andrew Marshal, a distinguished teacher in Holborn. He, however, steadily pursued his labours, and with increasing years obtained increasing fame, and upon the death of Dr. M. he arrived, it may be said, at the utmost popularity as a teacher. He may indeed be looked upon as the real founder of the medical school of St. Bartholomew's Hospital.

Mr. Abernethy was about four years senior to Sir Astley Cooper: they were very good friends, but they did not meet often. Mr. A. commenced business in St. Mildred's Court, in the Poultry, where he was visited by Mr. Cooper, and to whom he marked out a sort of succession of apprenticeships he intended to subject himself to. “I intend (said he) to live *seven*

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years in the city, *seven* years in the middle of the town, and *seven* years at the west end, or fashionable part of London, and then I shall conclude my professional labours." At his residence in the city he had but little furniture. Sir Astley recollects a camera lucida, by which he made some anatomical drawings; and he had that which made his visitor smile—a hornet's nest,—which made Sir Astley facetiously remark to Mr. A., that he had already a hornet's nest about him. How long he remained at St. Mildred's Court, or whether he completed his proposed *seven* years, I know not; but he removed to Bedford Row, (the middle part of the town,) where he remained during the whole of his professional career.

Some time previous to his death he resigned the hospital, and retired altogether from practice: his health decayed rapidly—he withdrew from London, and, after a protracted illness, died at Enfield, April 20, 1831. His eccentricity continued during his existence, and towards the last he is reported to have joked upon the œdematous state of his legs produced by the disturbance of the circulation and his difficulty of breathing. Some one inquired of him how he was? to which he replied, "Why, I am better on my legs than ever: you see how much stouter they are!" His hobby retained full possession also to the end of his life. He attributed his disease to the stomach. He said, "It is all stomach; we use our stomach ill when we are young, and it uses us ill when we are old." But it is not a little singular, that he expressly enjoined that no examination of his body should take place!

Mr. Abernethy was elected a Fellow of the Royal Society in 1796. He was Surgeon to St. Bartholomew's Hospital, and also to Christ's Hospital. He was an Honorary Member of the Royal Medical Society of Edinburgh, and of the Medical Societies of Paris, Philadelphia, &c. He had for many years been one of the Council of the Royal College of Surgeons, and one of the Curators of the Hunterian Museum.

It remains to notice Mr. Abernethy's works, and the papers communicated by him to the Transactions of different Societies, &c.

In 1793 Mr. Abernethy's first distinct work appeared, under the denomination of *Surgical and Physiological Essays*, a small octavo volume, inscribed to his surgical teacher, Mr. (afterwards Sir Charles) Blicke. This volume contains an *Essay on the Lumbar Abscess*, and in this is detailed an improvement in its treatment which has kept its ground to the present day, and is practised by the best surgeons. Perceiving that as long as the condensed cellular substance which forms the cyst of an abscess remains entire, it continues free from inflammation, and the contained pus undergoes no putrefactive or other change of quality—and that in cases in which an opening is either indiscriminately made or produced by an ulcerative process that inflammation rapidly ensues, by which life is often speedily destroyed—Mr. A. suggested and carried into practice a process, simple in its nature, beautiful in its application, and most happy in its effects. This

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practice consists of making an aperture into the sac of a lumbar abscess, to evacuate the contents, and then immediately closing the wound, which may be readily effected by not allowing the wounds in the skin and the cyst to correspond. By the withdrawal of the fluid, the sac contracts—as more fluid is collected, the same process is repeated, so that, in the course of time, the sac becomes obliterated. This does not take place in all cases, but in many it ensues, and the mode of treatment proposed by Mr. Abernethy is therefore to be looked upon as one of the improvements introduced into modern surgery. In this essay, Mr. A. suggests the application of this practice to cases of spina bifida. This was successfully adopted by Sir A. Cooper. The volume contains also an *Essay on the Composition and Analysis of Animal Matter*.

In the same year, a second part of these Essays appeared, containing papers *On the Nature of the Matter perspired and absorbed from the Skin*, and *On the ill Consequences sometimes succeeding to Venesection*. The first essay is entitled to notice, as the functions of the skin are far from being fully understood. Mr. A. analyzed the air in which the hand or foot had been confined for a certain length of time, and he detected in it a quantity of carbonic acid, serving to confirm Mr. Cruikshank's views upon this subject, for he regarded the matter of perspiration, and that expelled from the lungs in breathing, to be similar in their qualities. The experiments which have been made to illustrate the process of respiration, are, to say the least, very unsatisfactory as to their results. To ascertain the changes which the air undergoes by its progress through the lungs, it is necessary to inquire into the quantity respired. The discrepancy in these statements is truly astonishing. Sir H. Davy stated the quantity to be thirteen cubic inches in each respiration, and twelve and three-quarters at each expiration. Messrs. Allen and Pepys have named it sixteen and a half; Mr. Kite, seventeen; Mr. Goodwyn and Mr. Abernethy, twelve; and Jurin of Geneva sets it down at twenty; Richerand carries it beyond this, and assumes it to be between thirty and forty. At this highest number it is estimated by many eminent physiologists and philosophers, among whom I may name Menzies, Jurin, Thompson, Sauvages, Haller, Chaptal, John Bell, Soemmering, Fontana, and Dalton. It is a question, whether the air inspired be really diminished by the process of respiration. Sir H. Davy thinks it is as before stated, and such may be regarded as the generally received opinion; but in what degree, it is not possible to say, as the errors incidental to such minute experiments, applying either to the apparatus or other circumstances, are such as necessarily to render the matter any thing but precise. Mr. Abernethy, and, since his time, Dr. Edwards, have made experiments which go to show that the bulk of the air is absolutely increased by respiration. I shall revert to this interesting subject at some more fit opportunity. Mr. A.'s experiments on the functions of the skin are deserving of the attention of every physiologist. *A Case of Malformation of the Heart*,

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in which the aorta and pulmonary artery both arose from the right ventricle, and in which the foramen ovale was open, is given at the conclusion of this essay.

The third part of these Essays was published in 1797, and contains an important paper *On Injuries of the Head*. Mr. Abernethy has the merit of having prevented many an unnecessary operation in these cases by the information he has given on the subject. Injuries of the head are now pretty well understood, and the propriety of not interfering too much with nature, unless symptoms absolutely demanding attention are present, may be looked upon as fully established. The volume details some *Experiments on Irritability*, and some *Surgical Cases and Remarks*. These principally consist of cases of aneurism, in which Mr. Hunter's operation had been successfully performed, and a case often alluded to as the *first* in which the external iliac artery was tied.

Mr. Abernethy's next publication was in 1804, and entitled *Surgical Observations*. These relate to an attempt at *A Classification of Tumours according to their Anatomical Structure*. *An Account of Diseases which strikingly resemble the Venereal Disease: and Various Cases illustrative of different Surgical Subjects*. The classification of tumours is a subject of great difficulty: no satisfactory definitions have yet been given; and as I have already stated in the memoir of Mr. Lawrence, "We must attend to histories, collect facts, and, at some future period, this department of pathological science may be more fully elucidated." With respect to *Pseudo Syphilis*, many practitioners must be aware of the importance of the subject, and the difficulty which frequently attends the discrimination of these cases. Mr. A. has detailed some of great interest, and they would seem to demonstrate the necessity of forming a judgment upon their nature by a careful investigation of their histories and progress, and not upon their general aspect or appearance. Mr. A. says, that the constitutional symptoms of syphilis are generally progressive, and that they never disappear unless medicine be employed, and that they are generally relieved under an adequate effect of mercury on the constitution. He cites, in support of this opinion, the agreement of several surgeons of eminence; yet subsequent investigation has disproved the accuracy of this statement. The action of syphilis is not regularly progressive, and can be removed without the employment of mercury in any form whatever. There are instances in which the disease has worn itself out without the use of this medicine, and without proving fatal to the individual affected. The *Various Cases*, are additions to his former papers on *Injuries of the Head, Aneurism, &c.* The second case in which he tied the external iliac artery, is given in this volume.

In 1806 Mr. Abernethy put forth his *Surgical Observations*, containing *An Account of the Disorders of Health in general, and of the Digestive Organs in particular, which accompany Local Diseases, and obstruct their*

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Cure, &c., &c. This is the "Book" upon which Mr. Abernethy's popularity has principally rested. His constant advice, "Read my Book," has made this work so generally known to the profession and the public, that it is unnecessary to give any particular account of it. Mr. A. assumes too much in attributing to surgeons in general an ignorance of medicine; but he has doubtless done much to correct such an omission, by showing, in a more forcible manner than had hitherto been done, that the effects of local disorders upon the constitution have been too little attended to, and he has the merit of tracing philosophically all the conditions between local and general disease. His great object appears to be, to establish as a theory, that the irritation which follows as a consequence from local disease, produces, through the medium of the nervous system, great disorder of the digestive functions, and that this disorder aggravates and maintains the continuance of the local disease from which the general derangement had originally been produced. Cases of various kinds, illustrative of these opinions, are detailed, and the work must be looked upon as a valuable contribution to medical literature. Mr. A.'s attachment to his opinions on this subject, led him, frequently, I fear, to disregard the real disease. He would consider no case, but in relation to some disorder of the digestive organs: he could see no local affection, without referring it to constitutional disorder. I was once consulted by a lady for a common affection of one of the bursæ mucosæ of the knee-joint, which had been occasioned by a blow received against the edge of a step. She went to Mr. Abernethy, and was about to show the affected part, when he rudely exclaimed, "I don't want to see your knee, Ma'am! Allow me?" and he pressed his fist with force upon her stomach. She called out, and he declared her digestive organs to be at fault. The treatment she had received occasioned her to have an attack of hysterics, in the alarm at which, I was called in. She was afterwards under my care, and recovered completely without taking a single dose of medicine. The case was strictly *local*. This is indeed a sad perversion of the judgment. The possession of such preconceived opinions were, I doubt not, in many cases highly injurious. But it was his *hobby*; and, as Sterne says, "Have not the wisest of men in all ages, not excepting *Solomon* himself—have they not had their hobby-horses—their running-horses—their coins and their cockle-shells—their drums and their trumpets—their fiddles—their pallets—their maggots and their butterflies? and so long as a man rides his hobby-horse peaceably and quietly along the king's highway, and neither compels you or me to get up behind him,—pray, Sir, what have either you or I to do with it?" Mr. A.'s popularity, however, to a certain extent may be said to have compelled those who were sick to resort to him, and they could scarcely be thought competent to form a correct opinion in a matter personal to themselves, and professional in its nature.

In 1809 Mr. A. published another volume of *Surgical Observations On the Constitutional Origin and Treatment of Local Diseases, and on Aneu-*

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risms. This will be seen to be in some measure a continuation of the subjects embraced in former publications. There are also several additions to previous papers on the *Occasional Ill Effects of Venesection; on Emphysema; on the Puncturing of the Bladder; &c.*, which it would occupy too much time to particularize; for in this, as in all Mr. A.'s publications, there is a sad want of arrangement.

Mr. Abernethy's *Lectures* at the Royal College of Surgeons in 1814 and 1817, and his *Inquiry into the Probability and Rationality of Mr. Hunter's Theory of Life*, have been already noticed in the memoirs of Mr. Hunter and Mr. Lawrence. In 1819 Mr. Abernethy delivered the Hunterian Oration at the college, which contains a good view of the rise and progress of surgery, and the great achievements effected by Mr. Hunter, a theme upon which he ever delighted to dwell.

To the works above enumerated, various editions of which have from time to time appeared, with additions, modifications, &c., Mr. A. printed papers in the *Philosophical Transactions*, the *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*, the *Transactions of the Medico-Chirurgical Society*, the *Edinburgh Medical and Surgical Journal*, and *Rees's Cyclopædia*, with a brief notice of which I must close the present sketch.

In the *Philosophical Transactions* there are three papers:

1. (Vol. LXXXIII. p. 59.) *Account of Two Instances of Uncommon Formation in the Viscera of the Human Body*. In the first case there was a singular transposition of the heart and distribution of the blood-vessels, and a strange formation of the liver. Mr. A. supposed the bile in this case to have been secreted entirely from arterial blood. Mr. Kiernan has made a more particular examination and dissection of the preparation, which is in the museum of St. Bartholomew's Hospital, and has given a good account of it in his paper on the *Physiology of the Liver*. He does not consider the instance as militating against the opinion that bile can only be formed from venous blood. The second case is of an uncommon formation of the alimentary canal. It consisted of an extraordinary disproportion of the large and small intestines, the latter being only two feet in length, whilst the former measured more than twice that extent. The whole length of the intestinal canal in this subject did not reach more than six feet, though, according to the length of the body, it should have been not less than twenty-seven feet.

2. (Vol. LXXXVI. p. 27.) *Some Particulars in the Anatomy of a Whale*. These relate to the peculiar arrangement of the lacteals in this genus of animals.

3. (Vol. LXXXVIII. p. 103.) *Observations on the Foramina Thebesii of the Heart*. Mr. Abernethy conjectures the use of these openings to be for affording the vessels of the heart destined for its own nourishment the means of relieving themselves when surcharged, by pouring a part of their

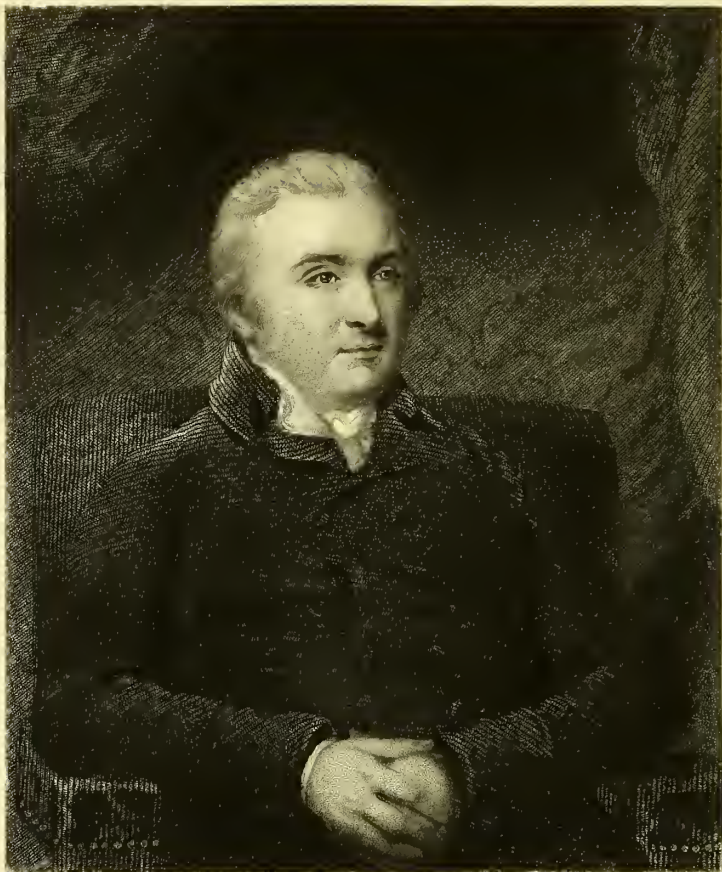
contents into the cavities of the organ. Vieussens first noticed these foramina, but Thebesius expressly described them. Their existence is, notwithstanding, exceedingly doubtful.

In the second volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Mr. A. contributed *An Account of a singular Disease in the Upper Maxillary Sinus*. A fungus filled the antrum, the bone covering which was destroyed by the actual cautery: the fungus then spread out upon the cheek, and could not be restrained until the patient was attacked with fever, upon which it sloughed away and never returned. Exostosis, however, succeeded—irregular in its shape, and of considerable size. Mr. A. did not expect any advantage from an operation, and therefore declined doing any thing. Surgeons of the present day would not have hesitated to remove it. The patient fell into the hands of a quack, who produced an extension of the disease.

In the first volume of the Transactions of the Medico-Chirurgical Society, Mr. A. has given *An Account of A Diminution (in consequence of disease) of the Area of the Aperture by which the Left Auricle of the Heart communicates with the Ventricle of the same side*. The left auricle was twice its natural size, and the opening of communication reduced so small as not to admit of the passage of any thing larger than a moderate-sized bougie. Mr. A. does not consider that inflammation alone produced this contraction, but is disposed to attribute it, in some measure, to the action of the heart itself, in consequence of the fleshy columns of the organ which terminate in the chordæ tendineæ of the mitral valves becoming morbidly irritable from the presence of inflammation or other causes. Another case, somewhat similar, but in which the valves were more diseased, is also related, and a case of uncommon disease of the ovary. It was encysted, and the contents were like to that fluid which is secreted by the sheaths of tendons and the bursæ mucosæ. Portions had become cemented together like balls, and assumed a granular character, the result of motion, according to the opinion of Mr. A.

In the Edinburgh Medical and Surgical Journal for January, 1807, there is *An Account of a case of Femoral Aneurism reaching as high as Poupert's Ligament*, and for which Mr. A. successfully tied the external iliac artery. This was the *third* instance in which he had secured this vessel.

To Rees's Cyclopædia, I understand, Mr. Abernethy contributed the anatomical and physiological articles, from the word ARTERY to CANAL. He is noticed in the preface to that work as one of the contributors, in conjunction with Mr. Lawrence, for the Anatomy and Physiology.



Mr Baillie

MATTHEW BAILLIE, M.D. F.R.S.

“Opum contemptor, recti pervicax, constans adversus metus.”

TACITUS.

THE great biographer and moralist has declared the physician, in a great city, to be “the mere plaything of fortune;” or, that “his degree of reputation is for the most part casual;” that “they who employ him know not his excellence; they that reject him know not his deficiency.” It is true that, for a time, the talents of a physician may not be properly estimated; or, what is far more likely, may be overrated—the chance of success, however, must necessarily be in some degree proportionate to the merit and talents of the individual, and, although propitious circumstances may influence the regularity of the connexion, or the accuracy of the proportion, yet success in practice constitutes the standard by which a judgment is to be formed; and this it is not difficult to ascertain—for the liberal education now given to all classes, and the dissemination of all kinds of professional knowledge, render the bulk of the community very competent judges of the value of medical skill in the present day. The union of great abilities with unwearied diligence, assuredly does not always command eminence in the medical profession—honour and affluence do not uniformly follow the possession of the highest talent. Much frequently depends on the advantages of position in society, family connexions, and often agreeable address. Yet, generally speaking, it may, I think, be fairly stated, that talent united to zeal and assiduity, seldom fails of exciting attention, and, although it may not meet with that elevation to which it is justly entitled, it will, nevertheless, place the individual in an honourable station in his profession and in society. The man who is best acquainted with his profession, is certainly the one most likely to succeed.

“Think frequently, think close, read NATURE.”

is the recommendation of an esteemed poet. Science is the only clue by which the labyrinth can be explored. A physician can have little pretension to ability, who has not made a study of the various parts of the human frame upon which he is destined to practise—on which he is to direct the operation of his remedies, and whose actions he is to watch over, to excite, subdue, or control. Observation is the foundation of true physic. Hippocrates is the model of accuracy in this respect, and it is in the writings of the Greek physicians that we must seek for the best authorities in medicine. I have elsewhere observed, that that man is not necessarily the most experienced physician who has seen the greatest number of cases. He who has reflected the most, and examined most

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minutely, is likely to be the best physician. Diseases are frequently so obscure in their nature, that probable conjectures only can be formed as to the remedies necessary to be employed, or of the issue likely to occur.

The importance of a knowledge of anatomy to the medical practitioner, is universally acknowledged, and viewing and admitting the connexion that must necessarily exist between the parts of the body in their healthy and diseased state, the importance of examining the dead must be obvious. Until a comparatively very late period, the neglect of this branch of inquiry is truly astonishing. Some few anatomists among the ancients have directed their attention to the subject, and the records of Bonetus, Mangetus, Morgagni, and Lieutaud, are familiar to all persons well read in their profession. Examining the dead, to ascertain with precision the changes of structure produced by disease, is absolutely necessary; and to no individual of modern times are we so much indebted, as to Dr. Baillie, for calling the attention of the members of the medical profession to this essential branch of study.

MATTHEW BAILLIE was born on the 27th October, 1761, in the manse of Shotts, in the county of Lanark. He was the son of the Rev. James Baillie, D.D., the professor of Divinity in the University of Glasgow; and Dorothea, sister of the celebrated anatomists, Dr. William, and Mr. John Hunter. This connexion on the maternal side, could not fail to afford great advantages to any aspirant to medical fame, and Baillie reaped them to the full. Having received the earlier part of his education under the superintendence of his father at the grammar-school at Hamilton, he was sent, in 1773, to the college of Glasgow, where he distinguished himself. He attended the Greek and Latin classes for two seasons, and in the third, cultivated the mathematics, logic, and moral philosophy, the latter being then professed by the celebrated Dr. Reid. Thence, having been appointed to an exhibition, he went, in 1779, to Baliol College, Oxford, and took his degree in arts and in physic, receiving his doctor's degree in 1789. During the vacations, he resided in London with his uncle Dr. William Hunter, who had, indeed, adopted him as a son, and by whose advice Baillie had embraced the medical profession, for it is said he would have preferred either the church or the bar. He was much engaged in making anatomical preparations for the lectures, and was employed also in conducting the demonstrations, and in overlooking the dissections of the students.

Upon the death of his uncle, in 1783, Baillie succeeded to the lectures in conjunction with Mr. Cruikshank, and gave his first course in the session of 1784-5. As a teacher, he succeeded in the highest degree—his demonstrations were remarkable for their clearness and precision—abstruse and difficult points under his hands became most simple and intelligible—he possessed a perfect conception of his subject, and imparted it with the utmost plainness and perspicuity to his hearers. He continued to lecture until 1799.

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Mr. Wardrop has quoted a character of Dr. Baillie, as a lecturer, given by one of his most distinguished pupils, whose name, however, does not transpire.

“ There was something in his mode of lecturing which, though not eloquent, irresistibly commanded the attention of his hearers: it was that of a person completely master of his subject, and anxious to convey knowledge to others. He was singularly clear in his demonstrations, yet concise and condensed; he was never at a loss for an appropriate word or phrase; never made repetitions; never introduced an observation out of its proper place; and he had nothing to assist him, except in a few introductory discourses, but the mere heads of his lectures. His manner was not without animation, yet always modest, and most unostentatious; and the attention of the student was excited, not by brilliancy of composition, but by a remarkable fluency and precision of expression.

Dr. Baillie did not rapidly rise into practice—he acquired it gradually. He was appointed one of the Physicians to St. George’s Hospital in 1787, and he retained this office during thirteen years. In 1789, he was admitted a candidate at the College of Physicians; and, in 1790, elected a Fellow. He was appointed Censor in 1792, and again in 1797, and in 1794-5, one of the Commissioners for the inspecting and licensing of houses for the reception of insane persons. His success in practice arose from his celebrity as an anatomical teacher, and his great acquaintance with his profession. These, united to his amiable manners, procured for him the friendship of many of the most eminent members of his profession, and among others, that of Dr. David Pitcairn, whose professional knowledge and literary attainments were universally acknowledged. Dr. P. entertained a very high opinion of Dr. Baillie’s talents, and consulted him as his own professional adviser. In 1798, this physician was compelled to quit London for a milder climate, and went to Lisbon. His secession from practice brought Dr. Baillie into great demand, for he attended the chief part of Dr. P.’s patients, and he rose rapidly into eminence, being consulted by all classes of society. His relationship to the Hunters, and his marriage, in 1791, with the eldest daughter of Dr. Denman, contributed also to advance the fortune of Dr. Baillie in his profession. The death of Dr. Warren also contributed not a little to extend his engagements. Having been called to attend upon the Duke of Gloucester, he obtained so strongly the good opinion of the royal family, that upon the king’s subsequent illness, he was consulted; and, in 1810, he was appointed Physician to his majesty, and a baronetcy was offered him; but this he had the prudence to decline, not being ambitious of such distinction. His professional receipts were said in one year to have reached £10,000. He might have increased them much further; but this would not have been agreeable to his feelings, or in accordance with his character. He was much sought for in consultation, for he was very ready in the expression of his opinion, quick in seizing upon the particular character of the disease, and in bringing the fruits of his great experience to illustrate his views. He has been described as being equally happy in his mode of commu-

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nicaing his opinion to the patient, avoiding all unnecessary technical phrases, assuming no mawkish sentimentality, but stating the fact in plain and simple terms, sometimes with pleasantry, if the case admitted of it, otherwise with gentleness and gravity. By these means he conciliated and tranquillized the sufferer, and gained the approbation of his professional brethren with whom he was engaged on the occasion. Frankness, sincerity, and great good sense, marked all he said and did, and it could not fail to render him a popular consulting physician. The deportment which characterized him at the bed-side of the sick, distinguished him equally in his writings—nothing like consequence or pomposity—all modest and unpretending. That book upon which his medical fame principally rests, substantiates the truth of this remark.

Stahl has considered the neglect of the study of pathology, or the knowledge of the determinate causes of diseases and their effects, as an opprobrium to medical men. Baillie was the first of modern times to remove this censure, and, although the subject has now, since the classification of the different textures of the body, assumed a totally different direction, by which the utility of morbid anatomy is rendered more apparent, Dr. Baillie's work, which considers the different parts or organs under the various diseases with which they may be affected, is at least a treasure of honestly and accurately recorded facts for future pathologists to refer to. This work has been translated into several languages, and has gone through many editions, (five in his lifetime,) the best of which is that by Mr. Wardrop, who has very judiciously prefixed to it "Preliminary Observations on Diseased Structures." It has been translated into German by Söemmering, and published at Berlin in 1794, and by Hohnbaum, and published in 1820; into Italian by Gentili, at Padua, in 1807, and by Zami, at Venice, in 1820; and into French by Ferral, at Paris, in 1803, and by Guerbois, in 1815. Dr. Baillie did not form an unreasonable opinion of the value of his *Pathological Inquiries*: in his preface he modestly expresses his regret that "the knowledge of morbid structure does not lead with certainty to the knowledge of morbid actions, although the one is the effect of the other; yet surely it lays the most solid foundation for prosecuting such inquiries with success." In the 2d edition, Dr. B. added the "Symptoms of Diseases," and availed himself of the observations of Professor Söemmering and other distinguished anatomists. His labours have been correctly estimated by an able writer in the *Edinburgh Medical Journal*. In speaking of works on pathological anatomy, he characterizes those of Voigtel, Portal, and Baillie, in the following manner: "The German is tediously minute, exact, and prolix; the Frenchman is luminous, copious, and verbose: the Englishman is simple, short, perspicuous, and useful; not a word is said more than is necessary, and that word is always directed to the point." The plates to illustrate this work were published in fasciculi from the year 1799 to 1802.

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Dr. Baillie was elected a Fellow of the Royal Society in 1789, and his earliest papers appeared in the Philosophical Transactions for 1788 and 1789.

1. *An Account of a Remarkable Transposition of the Viscera.* In this case the whole of the thoracic and abdominal viscera were completely transposed, those of the right side of the body were found placed upon the left side, and *vice versa*. Cases of a similar kind have been recorded by Winslow, Sir A. Cooper, Dr. Quain, Dr. Watson, and others.

2. *An Account of a particular Change of Structure in the human Ovarium.* The change of structure here alluded to consisted of a conversion of the ovarium into a fatty mass intermixed with hair and teeth, of which there are now several instances on record. It is worthy of remark, that the subject of this condition was a child about twelve or thirteen years of age.

To the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge," Dr. Baillie contributed no less than eleven papers:

1. *On the Want of a Pericardium in the Human Body.* This is a deficiency of very rare occurrence. The heart was in no way connected to the diaphragm. The subject was an adult of the middle period of life.

2. *Of uncommon Appearances of disease in Blood Vessels.* One of these offered an example of the obliteration of the carotid artery which had become aneurismal. Nature had, by the formation of a firm coagulum, effected a cure of the disease of the vessel. Among other observations in this paper, is the relation of an impervious vena cava inferior, from the entrance of the emulgent vessels to the right auricle of the heart. The circulation was carried on by enlarged lumbar veins and the vena azygos.

3. *Of a Remarkable Deviation from the Natural Structure in the Urinary Bladder and Organs of Generation of a Male.* Many instances of similar malconformation are upon record.

4. *A Case of Emphysema, not proceeding from Local Injury.* The cause of this was not apparent upon dissection. Dr. B. thought that the small blood-vessels distributed on the cells of the cellular membrane might have a power, under particular circumstances, of secreting air.

5. *An Account of a Case of Diabetes.* Dr. B.'s opinion as to the cause of this disease appears to favour that which ascribes it entirely to renal disorder.

6. *An Account of a Singular Disease in the Great Intestines.* In this case a large portion (at least six inches) of the colon was thrown off during life. No *post mortem* examination could be obtained.

7. *An Account of the Case of a Man who had no Evacuation from the Bowels for nearly fifteen weeks before his death.* This arose from stricture at the sigmoid flexure of the colon.

8. *On the Embalming of Dead Bodies.* This paper gives an account of the modes of embalming adopted by the ancient Egyptians, as recorded by Herodotus and Diodorus Siculus. Of these methods, and of modern

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embalmings, I have given a full account in my "History of Egyptian Mummies," to which I must refer the reader who feels an interest to be acquainted with this curious subject.

9. *An Account of several Persons in the same family being twice affected with Measles.*

10. *Additional Instances of Measles occurring twice in the same person.*

11. *Three Cases of Inflammation of the Inner Membrane of the Larynx and Trachea terminating quickly in Death.*

The first case is that of Dr. D. Pitcairn, and the second of Sir. J. M. Hayes, Bart., both of the medical profession. The cases related are of persons all subject to attacks of cynanche tonsillaris, and, as the laryngeal affection in an acute form is not of frequent occurrence in adults, it would appear reasonable to conclude that those liable to quinsy are also most susceptible of laryngeal or tracheal inflammation.

The 4th and 5th vols. of the "Medical Transactions," published by the College of Physicians, contain seven papers by Dr. B.

1. *The Case of a Boy seven years of age, who had Hydrocephalus, in whom some of the Bones of the Skull once firmly united, were, in the progress of the disease, separated to a considerable distance from each other.* An extremely rare case. The ventricles contained nearly a pint of fluid.

2. *Of some Uncommon Symptoms which occurred in a Case of Hydrocephalus Internus.* The subject of this case was a gentleman fifty-six years of age. It is one of the very curious instances upon record of the loss of recollection of the words of his own language except a very few, which he is said to have

"pronounced with the greatest distinctness, exhibiting none of that thickness in his pronunciation which is so common in paralytic patients. These words, *Yes, Yes, No, No, Mr. Reed, Yesterday*, were employed upon all occasions, with a great variety of tone, to express pleasure and displeasure, joy and sorrow, to explain the circumstances of his disorder, and to give directions about what he wanted. He did not seem to be aware that these words were not the proper ones to express his meaning, for he often betrayed impatience when he was not understood, and was not mortified at repeating so often the same words: other words he could pronounce distinctly, but he hardly ever did it, except in repeating some word that any person in his presence had just uttered."

3. *Upon a Strong Pulsation of the Aorta, in the Epigastric Region.* This is frequently dependent upon disorder of the digestive organs. The presence of the pulsation has often given rise to a suspicion of aneurism.

4. *Upon a Case of Stricture of the Rectum, produced by a spasmodic contraction of the internal and external sphincter.*

5. *Some Observations respecting the Green Jaundice.* This is almost invariably fatal. Dr. B. never knew but two cases of recovery. The distinction of symptoms between green and yellow jaundice are well noticed, and may prove useful.

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6. *Some Observations on a Particular Species of Purging.* The alvine discharge in these cases resembled lime mixed with water, and very frothy. Mr. Wardrop examined a patient who died of this affection, and found considerable thickness of the coats of the great intestines, particularly the rectum, great contraction of the canal, and small but deep ulcers interspersed over the surface.

7. *Some Observations upon Paraplegia in Adults.* Dr. Baillie considered this form of paralysis to have much increased of late years in this country; but could not assign any satisfactory reason for it. Of the cause productive of the affection, there is much contrariety of opinion. He regarded it as depending, in a great measure, on a disease affecting the brain itself, and not the spinal chord, as generally entertained.

These, with the edition of the work on the Anatomy of the Human Gravid Uterus, by Dr. Hunter, published in 1794, constitute the whole of the works of Dr. Baillie printed during his life-time. It is very much to be regretted that he wrote so little, possessing, as he did, much professional knowledge and great experience, for

“ ———— old experience doth attain
To something like prophetic strain.”—MILTON.

The active duties of his profession, however, left him few moments of leisure beyond those devoted to social intercourse; a necessary relaxation, to one so anxiously and so incessantly engaged. Towards the latter part of his practice he confined himself principally to consultations. In this way he hoped to gain a little leisure; but his hopes were frustrated, and his exertions proved too much for his frame—the labour of the mind was too great for the power of the body—the balance of intellectual and physical ability was destroyed—hence the following picture sketched by Mr. Wardrop:—

“When he became harassed with business, an irritation of temper sometimes disturbed him, but which, from the kindness of his heart, was immediately followed by such compunction, as occasioned him far more trouble, than if he had at once complied with an intrusive request. Often has he been known, under such circumstances, thus to express himself: ‘I have spoken roughly to that poor man, I must go and see him, be it ever so late.’ ‘That patient is in better health than I am in myself; but I have been too hard with him, and must make him amends.’ ‘I have been impatient with that poor hypochondriac.’ Thus the irritable temper and the kind heart were at constant variance with one another, to the injury of his tranquillity, and the increase of his bodily fatigue. He has frequently come to his own table, after a day of hurry and annoyance, and held up his hands to his family circle ready to welcome him home, saying, ‘Don’t speak to me,’ and then, by and by, after having drank a glass of wine, he would look round with a smile of affection, saying, ‘You may

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‘speak to me now,’ and never was he more agreeable than when one of these dark shadows had passed over him. After he had limited his practice to consultations, he one day said with much satisfaction, ‘I am glad to find that I can now give any body that speaks to me a civil answer.’”

Dr. Baron has given a very pleasing account of Dr. B. at Duntisbourne in 1820. “It was cheering to see the great London physician mounted on his little white horse, riding up and down the precipitous banks in the vicinity of his house, or trotting through the green lanes, and opening the gates, just after the manner of any Cotswold squire. Nothing could exceed the relish of Baillie for the ease and liberty, and leisure of a country life, when he first escaped from the toil and effort and excitement of his professional duties in London. Duntisbourne stands in rather a picturesque situation; the house overhangs a deep wooded dell, and is fronted, on the opposite bank, by the church and hamlet of Edgworth. The ramifications of this dell are intricate and beautiful; but there was little else in the Doctor’s vicinity to gratify the eye. Every thing wore an aspect of cheerfulness to him; and whether he was traversing the bleak summit of the Cotswolds, or taking his pastime in the more cultivated domains of Pimbery or Oakeley, he was equally happy and equally buoyant.” Here Dr. B. had interviews with Jenner, to whom he was well known, from the intimacy that had existed between Jenner and John Hunter; and Baillie was among the first to estimate properly the advantages of vaccination, and to give to it all the support which his influence and high professional character could bestow.

In 1823, he suffered from an attack of inflammation of the mucous membrane of the trachea; to relieve which, he quitted London for Tunbridge Wells, without experiencing much relief. He, therefore, retired to his seat, Duntisbourne House, near Cirencester, in Gloucestershire, where, with great calmness and resignation to the Divine will, he expired on the 23rd of September.

Upon intelligence of the death of Dr. Baillie being received at the College of Physicians, the following record was directed to be inserted in the college annals, and bears date September 30th, 1823:

“That our posterity may know the extent of its obligations to the benefactor whose death we deplore, be it recorded, that Dr. Baillie gave the whole of his most valuable collection of anatomical preparations to the college, and six hundred pounds for the preservation of the same; and this, too, (after the example of the illustrious Harvey,) in his life-time, (Dec. 1818.) His contemporaries need not an enumeration of his many virtues, to account for their respectful attachment to him whilst he lived, or to justify the profound grief which they feel at his death. But to the rising generation of physicians it may be useful to hold up, for an example, his remarkable simplicity of heart, his strict and clear integrity, his generosity, and that religious principle by which his conduct seemed always to be governed, as well calculated to secure to them the respect and good will of their colleagues and the profession at large, and the high estimation and confidence of the public.”

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By his will, he also bequeathed to the college all his medical, surgical, and anatomical books, the copper-plates of his illustrations of morbid anatomy, other little curiosities, and, among the rest, the gold-headed cane of the celebrated Dr. Radcliffe. And, in case of his son dying without issue, a further sum of £4,000. He bequeathed also, £300 to the Society for the Relief of the Widows and Orphans of Medical Men, of which he was the President. His effects were sworn under £80,000, and his will is dated May 21st, 1819. His two introductory lectures to his courses of anatomy, delivered in 1785; his lectures upon the nervous system, delivered before the college as the Gulstonian lectures in 1794; and a short account of his medical practice,—were directed to be printed, but not published, his modesty disposing him to think them not of sufficient value for publication, yet too useful to be lost. Of this work one hundred and fifty copies only were printed, as presents to the author's friends; but a translation into German was made by Hohnbaum, at Leipsic, in 1827. Mr. Wardrop published an edition of Dr. B.'s works in 1825, and prefixed a life of the author. In this are recorded some dissections, principally made from 1784 to 1793. They are merely memoranda, and not sufficient in detail to be of much value.

Dr. B.'s character, professional and moral, are entitled to great praise, and many anecdotes have been recorded which redound much to his honour. Mr. (now Sir C.) Bell has recorded one in an introductory lecture to a course of anatomy, which must not be omitted.

"The merest chance (says he) brought me acquainted with a circumstance very honourable to Dr. Baillie. While still a young man, and not affluent, his uncle William, dying, left him the small family estate of Long-Calderwood. We all know of the unhappy misunderstanding that existed between Dr. Hunter and his brother John. Dr. B. felt that he owed this bequest to the partiality of his uncle, and made it over to John Hunter. The latter long refused; but, in the end, the family estate remained the property of the brother, and not of the nephew of Dr. Hunter."

Mr. Wardrop relates several instances of generosity on the part of Baillie.

"A young lady who was suffering severely from a pulmonary complaint, asked his advice, and he recommended her to spend the winter months in a milder part of the country. He found that her circumstances would not admit of her trying this last resource to regain her health, and, to enable her to do so, he instantly gave her an adequate sum of money."

"A lady, whose rank in life was far above her pecuniary resources, had an illness, when his attendance became important, and during which he regularly took his usual fee, until it was no longer necessary; he then left in a bag the whole amount of what he had received, offering to the lady, as an apology, that he knew that, had he once refused to take his fee during his attendance, she would not have permitted him to continue it."

The leading features of his character have been described as consisting of simplicity, singleness of heart, and ingenuousness, not at variance, but in strict accordance with true wisdom. Few members of the medical profes-

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sion have claims to be considered equally disinterested, fair, candid, and generous. Sir Humphry Davy, Sir H. Halford, and others, have recorded their opinions of the character of Baillie. He has been designated as a practitioner "timid and sceptical of the influence of medicine in many diseases, to a very blameable extent." I cannot subscribe to this opinion from the small portion of his practice I have witnessed, and the conclusion at which I must arrive from a perusal of his papers. Mr. Wardrop has, I think, given the true answer to this charge in the following passage:

"In the practical part of medicine, which in its application to individual cases may be said in many respects to be conjectural, the more a man advances in years, the more does he find how limited has been his knowledge, and how much he has still to learn. No one seemed more aware of this than Dr. Baillie; and I have frequently observed this superior knowledge of his art lead to the remark, that his practice was inert; for when he perceived certain and irremediable changes in disease, or when they had a fatal character from their commencement, he would merely attempt to palliate, whilst a practitioner not possessing his accurate knowledge, would have made fruitless efforts to cure the disease."

No man possessed a more extended circle of friends of all ranks of society than Dr. Baillie. Of the high regard entertained for him by all the members of the royal family, I can confidently speak. He was peculiarly qualified for the enjoyment of private life. His manners were exceedingly mild, very conciliating, and totally unaffected. He was, indeed, admired and beloved by all who knew him intimately. His amiable manners and disposition ensured to him the good-will of every one who had the happiness to enjoy his society. His assiduity and his moral deportment entitled him to the regard and respect of the whole profession. He had no great wit, nor was his talent for humour at all remarkable; but he delighted to pass his leisure moments (if such they can be called) in the society of a few chosen friends. Of a club which, though considered as scientific was more to be regarded as convivial, Dr. B. was a member, and gave very regular attendance. This club was originally established by Dr. Russel, the author of the History of Aleppo, Physician to St. Thomas's Hospital, &c., and the members of which were (for from the death of Baillie, and the loss of others, it gradually decayed, and is now extinct) Dr. Baillie, Sir G. Blane, Bart., Sir B. Brodie, Bart., Sir A. Crichton, Mr. Coleman, Dr. Cooke, Sir A. P. Cooper, Bart., Dr. Fordyce, Mr. Green, Dr. Holland, Sir E. Home, Bart., Sir J. McGrigor, Bart., Sir P. Macgregor, Bart., Mr. J. C. Moore, Dr. Paris, Dr. Roget, Dr. Russel, Dr. Somerville, Mr. Thomas, and Dr. Wells.

The Portrait which accompanies this Memoir is from a Picture by Mr. Hoppner, R.A., in the possession of Dr. Baillie's sister, JOANNA BAILLIE, "whose genius is sufficient to shed a lustre on all her race," and to whom I am proud to acknowledge my obligations for the permission to engrave so admirable a likeness of her distinguished brother.



J. Baron

JOHN BARON, M.D. F.R.S.

ETC. ETC. ETC.

“*Æstimatio causæ sæpe morbum solvit.*”—CELSUS

THE subject of this memoir was born at St. Andrew's, on the 26th of May, 1786. His father, who was professor of rhetoric and logic in that university, was a learned and able man, and associated with all the distinguished individuals who at that time adorned the science and literature of Scotland. Among that number no one was more conspicuous than Lord Kaimes, with whom he lived on terms of the most confidential intercourse and friendship. His lordship succeeded in reviving the Philosophical Society of Edinburgh, originally established by the celebrated Maclaurin. This Society, of which Mr. Baron was a member, in a few years, at the instigation of Principal Robertson, merged in another on a more extended plan, and was incorporated by a royal charter, under the name of the Royal Society of Edinburgh. Of this Society, Mr. Baron was an original member. He published an Essay on the Mechanical Principles of the Plough; A History of the Colonization of the Free States of Antiquity, applied to the Contest between Great Britain and her Colonies; and, A History of the Political Connexion between Great Britain and Ireland. The two latter works were published without the author's name. The former attracted a great deal of notice, both in England and on the continent, and drew forth several replies. At the time of his death, he was engaged on a History of the Literature and Philosophy of Rome; but this work, not having received the author's final revision, was not published.

JOHN, who was his second son, went to school at St. Andrew's, where he early distinguished himself among his fellows by his quickness and assiduity. He entered the University there when he was only about thirteen years of age. His studies embraced the classics, logic, mathematics, &c. He likewise attended to some branches of natural history, preparatory to his education as a physician, for which he was ultimately destined. In furtherance of this plan, he was removed to the University of Edinburgh in 1801, being then in his fifteenth year. Shortly after his appearance there, he attracted the notice of the Senatus Academicus, and of many of his fellow-

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students, by his conduct during an occurrence which took place in the anatomical theatre. Many of my readers may recollect the absurd and boyish habit by which the pupils used to testify their approbation or disapprobation of persons or things. It consisted in making a peculiar sound with the feet on the floor, and was commonly called *ruffing*. This sound invariably saluted the ears of a remarkably tall and stout Irishman, of the name of Bulkeley, the instant he came within sight of the persons who thus delighted in annoying their neighbours. His appearance was singular, and all eyes were instantly turned towards him. His good nature, which was really great, became at length exhausted, and he resolved to inflict summary chastisement on the offenders. With this intention, he deliberately walked through the centre of the theatre, and immediately applied his large fist to the persons of the three culprits. This infliction they bore the first day with very extraordinary patience. They brooded, however, over their punishment, and resolved on vengeance. The next day they planted themselves opposite the door of the theatre, and immediately commenced their insulting noise on the approach of the Irishman. He instantly recognized the persons, whose noses and ears tingled from the rough usage which they had experienced the day before. Mr. Bulkeley, without any hesitation, proceeded to administer a second application of the same remedy. He approached his antagonists, who, starting from their seats, with one consent furiously assailed him with bludgeons. The battle raged for some time over the benches. Young Baron, who was at the most remote part of the theatre, shocked to see three against one, immediately made all haste to assist the Irishman. He had scarcely reached the scene of action before the combat assumed a new character. The principal assailant pulled a pistol from his pocket, and attempted to shoot Mr. Bulkeley. He, on seeing the weapon, behaved with extraordinary gallantry and courage: he exposed his whole body, exclaiming at the same time, "Fire, you scoundrel!" Without a moment's delay, Baron threw himself on the culprit, forced him to his seat, and prevented the threatened mischief.

This incident created a very considerable sensation, both in the University and in the city. Baron was required to give evidence before the *Senatus Academicus*, when it was ascertained that the pistol was loaded with ball, that another was in reserve, and that nothing but his prompt interference had prevented the most frightful consequences. The offender was expelled from the university. Baron's conduct on this occasion gained him favour in the eyes of many of the professors. He received much kindness from Dr. *Monro, senr.* who, at a subsequent period, offered him an appointment to India; which he declined. His fellow-students likewise

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were not unobservant of his character, as he received at their hands one of the greatest honours they can bestow, having been elected one of the Presidents of the Royal Medical Society, in the year 1804.

In December 1803, he had the misfortune to lose his father. This occurrence was most disastrous in every way, and imposed upon him a great weight of responsibilities and duties, which much interrupted his professional studies, and materially injured his health, always extremely delicate. He contrived, however, to prepare for the press and edit his father's lectures, which were published in 1805. He likewise so assiduously applied himself to his own more immediate pursuits, that he was enabled to pass through the necessary examinations, preparatory to his taking his degree, which he received in July 1805, having scarcely completed his nineteenth year. The subject of his thesis was "*De Nutritione Fœtus.*"

The impression made upon his mind by the death of his father, combined with other sources of disquiet, so weighed upon him, that he made an attempt to gain an appointment in some of the armies then fighting against Napoleon; but the battle of Austerlitz put an end to the project, by terminating the war. He continued to prosecute his studies at Edinburgh during the winter of 1806. In the autumn of that year he was requested to go with a gentleman to Lisbon, who was about to proceed to that place for the recovery of his health. He left Lisbon a short time before the French invasion, and returned to England in the summer of 1807. And it was resolved, in 1808, that he should endeavour to settle himself in practice. In pursuance of this plan, he went to London, where he was introduced to Dr. Jenner by his friend Dr. Maton; which event he alludes to in the following interesting manner.

"I cannot refer to this and many other favours conferred upon me by this distinguished and most estimable physician, without dwelling for a moment on the consequences of that introduction. To me it proved one of those leading and influential events, which colour all the subsequent ways of a man's life. I was about to commence practice: all the world was before me. In seeking the acquaintance of Jenner, I was impelled mainly by a desire to do homage to a man whose public and private character had already secured my warmest admiration. I little thought that it would so speedily lead to an intimacy, and ultimately to a friendship, which terminated only at his death, and placed me in a relationship to his memory that no one could have anticipated. The greatness of his fame, his exalted talents, and the honours heaped upon him by all the most distinguished public bodies of the civilized world, while they made me desirous of offering my tribute of respect to him, forbade the expectation of more than such an acknowledgment as a youth, circumstanced as I was, might have expected. I soon, however, perceived that I had to do with an individual who did not square his manners by the cold formality of the world. He condescended as to an equal; the restraint and embarrassment that might naturally have been felt in the presence of one so eminent, vanished in an instant. The simple dignity of his aspect, the kind and familiar tone of his language, and the perfect

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sincerity and good faith manifested in all he said and did, could not fail to win the heart of any one not insensible to such qualities. Though more than twenty years have elapsed since this interview took place, I remember it, and all its accompaniments, with the most perfect accuracy. He was dressed in a blue coat, white waistcoat, nankeen breeches, and white stockings.* All the tables in his apartment were covered with letters and papers on the subject of vaccination, and the establishment of the National Vaccine Institution."

Dr. Baron was also in constant intercourse with Dr. Baillie, who took much interest in his welfare, and selected Cheltenham as the place at which he should commence practice. While living there in the autumn of 1808, he received a letter from Dr. Baillie, announcing the death of Dr. Roberts, one of the physicians of the Gloucester infirmary, and advising him to offer himself as a candidate for that situation. He willingly followed that advice, and was without opposition elected to that office early in 1809. This appointment was in a great degree due to the warm-hearted interference of Dr. Baillie. His recommendation, which was couched in the most cordial and friendly terms, immediately enabled him to occupy an important public station, and to acquire the friendship and regard of many of the most influential families of the district.

Dr. Baron laboured very hard in his public duties. His youth, being little more than twenty-two years of age when elected to the infirmary, and his inexperience, made him feel very deeply the responsibility of his situation. He recorded almost every case with great accuracy, making daily reports and observations. He took likewise every opportunity of pursuing the study of pathological anatomy, for which the infirmary afforded him ample means.

At a very early age he projected a work on mental pathology, and printed an outline of his design. He thought that the consideration of human nature as a whole, which had long before been recommended as a branch of knowledge fit to be cultivated by itself, still demanded much elucidation. He intended to attempt to trace the sympathies and concordances between the mind and body, which being mixed cannot properly be assigned to the sciences of either.† He collected many materials for this purpose; but his increasing private practice, and his other studies and occupations, compelled him to relinquish his intention.

In 1811, he endeavoured to embody the whole professional influence in the district in which he lived, in favour of vaccination. With this intention he drew up an address, which was signed by a great number of physicians

* We are grateful to him who told us that Milton wore large buckles; and that Washington broke in his own horses; and in some future day the curious reader may be thankful for such particulars descriptive of the habits of Jenner.

† See Bacon on the Advancement of Learning.

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and surgeons, expressive of their unbounded confidence in the practice, and of their determination to discountenance small-pox inoculation in every possible way. The colleges of surgeons, both of London and Dublin, at a subsequent period, adopted the principle of the "Gloucestershire Vaccine Association," and recommended all their members to act upon it.

At this period, likewise, he was anxiously engaged in promoting the establishment of the Lunatic Asylum at Gloucester. He paid unceasing attention to the erection and completion of the building, which after many delays was opened for the reception of patients in 1823. On that occasion he was under the necessity, in consequence of his bad health, and numerous occupations, (having then, in addition to his other duties, undertaken the labours which devolved upon him in consequence of the death of Dr. Jenner,) to decline the appointment of physician to this institution, but he continued his efforts as a member of the managing committee, and became consulting physician; which appointments he still holds. Amid these occupations, his private practice was rapidly extending, and though often subdued by long and distressing sickness, he pursued his professional and other studies with unceasing ardour.

In 1817 he published, in the eighth volume of the *Medico-Chirurgical Transactions*, the "History of a case of Rupture of the Brain and its Membranes, arising from the Accumulation of Fluid in a case of Hydrocephalus Internus." This is altogether a very remarkable case. The head of the child at three months had attained a circumference of twenty-nine inches, and the bones of the skull were separated from each other to the greatest possible degree. The circumference did not further enlarge, but a swelling occurred over the posterior fontanelle, which in a week acquired the size of a goose's egg. The swelling was found one morning to have become much softer and smaller, and a dribbling of water had taken place from the urinary organs to a very great extent. This continued during three days and nights, and with this the bulk of the tumour and whole head was so much reduced, that "the skin fell in wrinkles over the child's forehead, so as actually to cover the eyes." This flow continued during nearly two months, when it diminished, and the head began again to enlarge, and the swelling on the top to reappear. The size of the head exceeded that it had before attained. A watery discharge, tinged with blood, was now seen to ooze from the nostrils and mouth, and this continued for three days, at which time the swelling had vanished, and the bulk of the head was much smaller. The discharge from the nostrils continued from this time for a whole year, and the fluid never again accumulated in the external sac. The child continued to eat well to the last, and the bowels were reported

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to be natural in their action. She was sensible to external impressions, but never made any attempt to articulate. Dissection of the case afforded an explanation of the phenomena.

In 1819, Dr. Baron's "Enquiry illustrating the nature of Tuberculated Accretions of Serous Membranes, and the Origin of Tubercles and Tumours, in the different textures of the Body," made its appearance. The subject of this work had occupied a great deal of his time and attention from the commencement of his practice. During the whole of this period he was on terms of the closest intimacy with Dr. Jenner, and some of the pathological views which it unfolds were the result of communications with this distinguished man. In 1822 he published the "Illustrations of the Enquiry." Both the "Enquiry" and the "Illustrations" were translated into French by the celebrated Madame Ve Boivin.

The great importance of the serous membranes, and their intimate connexion with the principal organs of the body, on which life may be said chiefly to depend, is universally admitted. An inquiry, therefore, into the morbid lesions to which they are occasionally subject, cannot fail of interesting the physician and the pathologist. In this work, Dr. B. makes us acquainted with a serious chronic affection, of an alarming nature, which, perhaps, it is out of the power of medical science at the present day to remedy, but which it may be possible, in its early stages, to control or subdue. To Dr. B. we are certainly indebted for the first systematic account of it, although it had been alluded to by ancient authors. Dr. B. gives several instances of this disease affecting both sexes and all ages, and he is naturally led to examine into the nature of these tuberculous growths, and to propose some original views upon this subject, to explain the phenomena which present themselves in these cases. This is unquestionably the most correct mode of obtaining medical knowledge: practice and pathology here go hand in hand, and assist in elucidating each other, for mutually they crave each other's aid—

"alterius sic

Altera poscit opem res." HORAT.

Dr. B.'s object is to show the importance of the lymphatic system, in which many chronic and cachectic disorders date their primary condition—that the inflammation attendant upon these cases, which he has so well described, follows the tuberculous condition to which the agglutination of parts is to be attributed. The origin of tubercles, tumours, and scirrhus disorganizations, is certainly involved in much obscurity, and the profession is under great obligation to Dr. B. for the attempt he has made to unravel the mystery. It appears to me that the subject has not obtained that

degree of attention from the medical public to which it is justly entitled. The difficulty of the investigation may perhaps afford the solution of this neglect. "In the eyes of some pathologists, (says Dr. B.) the powers of inflammation are unlimited. It forms, by the aid of coagulable lymph, cysts and tumours, and all the varieties of diseased texture, that dissection constantly exposes to our view." That close observer, Bichat, was even led to believe the tuberculated affection of the serous membranes as a consequence of inflammation; but upon more mature consideration he was disposed to regard it as probably *une affection propre à ces membranes, comme les éruptions miliars le sont à la surface cutanée, comme les aphthes le sont aux surfaces muqueuses*. But the presence of tubercles, it is to be borne in mind, is not confined to serous membranes; they are to be found in perhaps every other texture of the human body. Their origin, according to our author, is connected with some of those elementary parts of our frame, which are diffused through the body, and enter into the composition of every organ. This is the case with the sanguiferous, and so it is with the nervous and absorbent systems. Since, then, the origin of tubercles is not to be attributed to inflammatory action, whence are they derived? Dr. B. says, from HYDATIDS. It is due to Dr. B. to observe, that, to avoid confusion and misapprehension, he subsequently restricted the use of the word Hydatid as much as possible to its etymological sense. His great object, from the first, was to trace the origin and progress of adventitious growths, especially those which have a vesicular or encysted character; and to show that a large proportion of malignant disorganizations have their commencement in bodies of this description; however imperfectly they may indicate this original character at their termination. The occasional existence of these vesicles or cysts in every part of the body is well known, and Dr. B. conceives, that to them is to be attributed many morbid growths, varying in their nature according to the variety of transmutations they have undergone, and the nature of the part in which they chance to be seated. This doctrine must be stated in his own words :

"These changes are progressive, but not uniform; and it is only in the larger hydatids that they can be accurately traced. They commence with an opaque spot, which advances, in some instances, with rapidity; in others, more slowly; and ultimately renders the coats thicker, and destroys their contractile power: but no regularity is observed in this process, and the morbid changes proceed in various ways. The conversion is sometimes into a substance resembling cartilage, possessing both its density and colour; again, signs of ossification are seen in the coats of the hydatid, while its contents retain their original character; but more frequently the latter are changed, and assume a vast variety of appearances. Most commonly a pulpy kind of substance, resembling scraped cheese in appearance and consistence, is met with. Sometimes a fluid resembling cream is found; at other times, it is dark-coloured, like a mixture of blood and water; or it may be

transparent and glairy, like the white of an egg. With these, gritty or earthy concretions are frequently found.

“The periods at which these transformations take place, are very uncertain. They may commence in a few days after the hydatid is brought into existence; or they may not occur at all, the original structure continuing for many years. The first position was demonstrated by experiments instituted by Dr. Jenner, on some very young animals, particularly rabbits. He found, that by feeding them with some kinds of food, the liver soon became studded with hydatids; and by examinations, at different times, he was able to trace the gradations, already mentioned, from the first inspissation of their contents, and thickening of their coats, to their final conversion into tubercles of varying size and hardness. In the same liver, he has also repeatedly found every gradation, from compact caseous-looking matter, to the limpid contents in their first stage. Small hydatids sometimes unite in clusters, and ultimately form what has been called a scirrhus tumour. In this case, though they may not be of a greater size than a pin’s head, yet they go through the same changes as the larger ones. At first sight, tumours which are formed in this way, seem to have a uniform texture, but, on close inspection, it will be found to be granulated, and that it has been formed in the way just described.”

The tuberculated disease of the peritoneum, pleura, &c. Dr. Baron refers to the absorbent rather than the sanguiferous system, and suggests that as the inflammation is a consequence rather than a cause; “our hopes of being able to avert or cure such maladies, must rest upon some other means than those which are merely calculated to subdue vascular action.”

In the second part of Dr. Baron’s work, which relates to the affection of the pleura, he enters further into the consideration of the connexion between hydatids and tubercles, and the formation of tumours. He thinks it possible that all tubercles, wherever situated, and of whatever substance composed, were at the commencement small vesicular bodies, with fluid contents; but how minute they may have been at their origin, or what circumstances occasioned their transformation, he thinks it impossible to decide upon. But to these *changes* in hydatids, certain tubercles (says he) owe their existence, and on the *size* and *relative position*, and *structure* of the *tubercles* which are so *formed*, *depend* the *characters* of *many* of the most *formidable organizations* to which the human body is exposed. The author goes on to trace the various forms under which these appearances may be observed, and thus passing from one stage to another, at length produce a condition of parts bearing no degree of similarity whatever, to the original state from which it sprung. The varieties are well shown, and merit a careful examination. The formation of tumours is a subject of great importance, and of great difficulty. The limits of these memoirs will allow me only to refer the reader to Dr. Baron’s works for the illustrations of this department of pathological science.

The “Illustrations” treat of the progress of pulmonary tubercle—of tuberculous diseases in the inferior animals—and on the treatment of tuber-

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culous diseases. In the second division, Dr. B. has, with great patience and ingenuity, illustrated the connexion between hydatid and tubercle, and shown their co-existence in the same animal in various instances. This branch of the inquiry is highly deserving of further research, and it would doubtless tend to explain many circumstances which at present require more elucidation.

The last chapter of the "Illustrations" contains some remarks on the use of iodine, which have been amply confirmed by subsequent experience. Dr. Coindet's memoir, mentioning the use of that remedy in bronchocele, was published in 1820. It struck Dr. Baron that this medicine might be employed with success in kindred disorganizations in other parts of the body. He acted upon this principle, and gave some very striking examples of its usefulness in various diseases. He continued to pursue the investigation, and in 1829 published, in the *Midland Reporter*, "Notes on the Use of Iodine," which afforded still stronger proofs of the power of the remedy in ascites, *physconia hydatidosa*, enlargements of the liver, &c.

Very shortly after the publication of the "Illustrations," he had the unspeakable misfortune of losing his distinguished friend Dr. Jenner, an interesting account of which is recorded in the second volume of the *Life of Jenner*. Not many months after this occurrence, he had to witness the gradual decay and dissolution of another most eminent friend, the late Dr. Baillie, who came from London to his seat in Gloucestershire, where he terminated his most exemplary and useful life. Dr. Baron was in constant attendance upon him during the whole of that period.

Immediately after Dr. Jenner's death, he received a formal application from his trustees to undertake the duty of biographer. The labour necessarily connected with such an office, made him hesitate; but his veneration for the name of Jenner overcame his reluctance, and after some delay, the papers were placed in his hands. When he began to examine them, their number, their variety, their intricacy, presented such a formidable obstacle, that he felt assured, from his public and private occupations, and his then state of health, that it could not be overcome. Under these circumstances, he resolved to relinquish the task, however gratifying it would have been, had he been permitted to fulfil it. The writer of this memoir has heard him express his deep regret at the difficulties with which he was surrounded. But at this period an occurrence took place, which enabled him ultimately to surmount the greater part of them. He was visited by one of his oldest and most affectionate friends, Richard Gamble, M.D., who had been associated with him as clinical clerk to Dr. Duncan, senior, in Edinburgh, and had been long one of the physicians in the Fever Hos-

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pital in Dublin. This learned and excellent physician entered into his feelings with the kindest ardour, and cheered him by his presence and his counsel, thus inducing him to resume and prosecute his labours among the Jennerian papers. Gamble took up his abode in his house, and devoted his whole time to the verification of those points which were necessary to the execution of the work. Assistance of this kind was indispensably necessary, for Dr. Baron was constantly compelled to take long and arduous professional journeys, and perform his public duties, and could never command one day for uninterrupted application. His studies were chiefly carried on while travelling, his carriage being always loaded with papers, and almost all the notes for the composition of the work were written at that time. He likewise had the help of another much valued friend, the Rev. John Webb, of Tretire, whose services he mentioned in the introduction of the first volume, with feelings of the utmost gratitude.

Of the biography of Jenner, I have already spoken in the memoir of that truly illustrious man. Of its merits there can be but one opinion entertained; its fidelity demands it, and no one can peruse any portion without being struck by the affectionate attachment, so strongly manifested by the friend and biographer. No one surely was better qualified to estimate the opinions of Jenner, from the possession of a kindred spirit, and a deep sense of the importance of the profession, of which Dr. B. is so distinguished an ornament. To the physiologist I would strongly recommend an attentive perusal of chapter five, which treats of the diseases similar in their nature, which have affected man and brute animals in common, from the earliest periods of history. The study of epizootic diseases, and the relations they may have to the epidemic disorders affecting the human species, have been very much neglected. The works of Ramazzini, Layard, Bourgelat, and others, may be consulted with much advantage on this subject.

In 1828, Dr. B. published "Delineations of the origin and progress of various changes of structure, which occur in Man and some of the Inferior Animals, being the continuation of works already published on this subject," 4to., with coloured plates.

The design of this work is to illustrate the principle laid down in the former publications, and to mark the first indications of disorganization in the animal frame, and to trace these through their gradations up to their final change. The possibility of obtaining the earliest species of evidence is, however, of rare occurrence; hence Dr. Baron takes the advantage of viewing disease in the inferior animals, to elucidate this branch of pathological science. He made many experiments to demonstrate the mode by which tubercles are formed. These require to be stated in detail, and I

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must, therefore, refer the reader to the work itself; they will amply repay him the trouble of perusal, and afford matter illustrative of the origin and progress of disease, and the objects of cure which every rational practitioner ought to entertain. The liver is the best organ for making these researches, for therein the various steps of disorganization are most conspicuous and most easy of production. The plates which accompany this work are very beautifully executed.

In the same year, Dr. Baron published, in the first volume of the Medical Gazette, an account of the case of an individual who had accidentally swallowed a great number of pins. Forty-three were extracted from different parts of the body during a period of nearly four years.

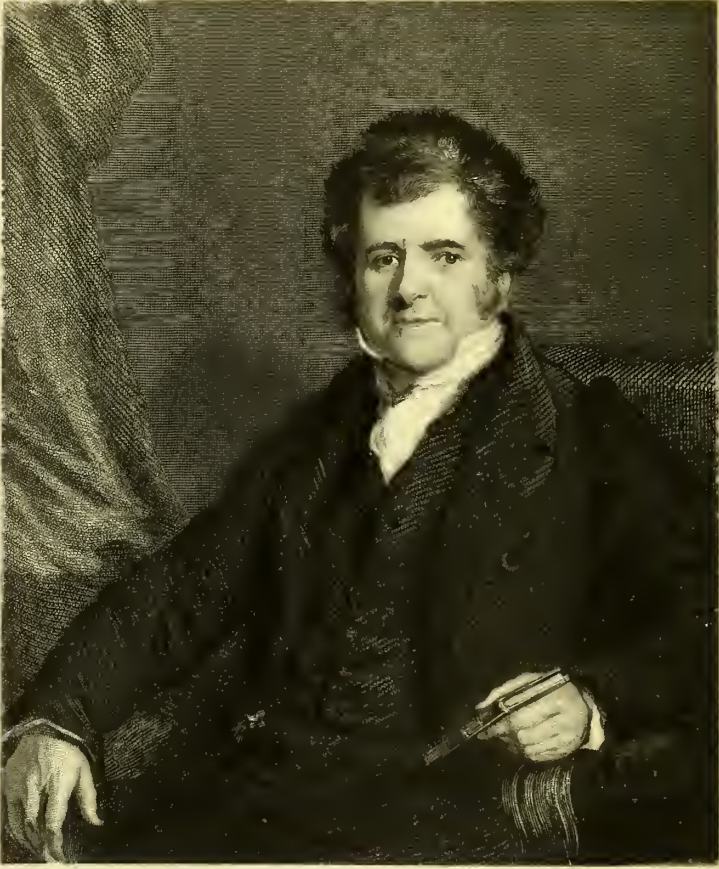
In 1829, Dr. Baron was requested to become the President of a Natural History Society, then just formed in Gloucester. On his acceptance of this office, he delivered to a very large assembly an inaugural discourse, an abstract of which was printed in the Gloucester Journal for Aug. 1st. In May 1831, he published in the Midland Medical and Surgical Reporter, "Contributions to Pathology." These consist of the description of a very large abdominal tumour, with displacement of the stomach. Rupture of cysts into the alimentary canal, and the cavity of the abdomen. Abscess of the liver passing through the diaphragm and lungs." The displacement of the stomach was occasioned by the extraordinary magnitude of the tumour, which consisted of several cysts. To diminish the size, and facilitate the examination of the body after death, a trochar was passed into apparently the largest cyst, but no fluid followed, and, upon inspection, the instrument was found to have passed into the empty stomach, for this organ was removed from its natural situation to the right side, its great curvature extending in a line from the margin of the ribs towards the ileum. This patient had been more than once tapped on the other side. The circumstance should be recollected by the surgeon. The weight of the tumour, including both its solid and fluid contents, amounted to upwards of 90lbs.!

In 1832, Dr. Baron became exceedingly ill, mainly in consequence of his great mental and bodily exertions. Having often before continued to labour while in this state, he determined to persevere, especially as the cholera was then threatening our shores. He took a very active part in the committee appointed to make preparations to meet that most formidable disease, and he himself very nearly fell a victim to it, almost immediately after its appearance. In his case the asphyxia was the most prominent symptom. He went to the Isle of Wight for the restoration of his health, but the recovery was slow and incomplete. In the autumn he was attacked

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with influenza, and had a constant succession of seizures of this kind during the winter, and even up to the summer of 1833. These severe illnesses proved to him, that he could not continue to labour as he had done, in his public and private practice at Gloucester; the latter, from the length of his journeys, requiring great bodily strength. He, therefore, resolved to change his abode to Cheltenham, where he finally fixed himself in the summer of 1833. He resigned his office of Physician to the Infirmary on the 21st of February 1833, upon which a most flattering vote of thanks was unanimously passed by a special general meeting of the governors, and transmitted to him by the Bishop of Gloucester, the President of the Institution. In the autumn of that year, he attended the meeting of the Provincial Medical and Surgical Association at Bristol, and brought forward a plan for establishing a benevolent fund for the relief of distressed medical men and their families. The plan is deserving of notice. It is neither a benefit society, nor an assurance club,—it is, strictly speaking, a benevolent or charitable institution, founded and promoted for the express purpose of assisting professional men, when struggling under the pressure of disease or other calamities. This fund has not yet been supported as it deserves, but it has done much good already, and doubtless will ultimately accomplish more.

The last work from Dr. Baron's pen, just published, consists of the continuation of the biography of Jenner. It is sufficient to say, that the second volume is worthy of the first. The two comprise a most perfect and satisfactory statement of all the circumstances connected with the discovery of vaccination, a clear and succinct view of the disease, and the most incontrovertible evidence of its prophylactic powers. It is the production of an enlightened and scientific mind—of a man of original views—of one who has laboured zealously in his vocation to extend the boundaries of science, by deep researches into pathology. In the enjoyment of an extensive practice, both public and private, he has been enabled to apply the doctrines he has promulgated, to the relief of his fellow-creatures; and he most deservedly carries with him the respect and esteem of his professional brethren. Dr. Baron is a member of many scientific institutions: he was elected a Fellow of the Royal Society in 1823, and an honorary Member of the Medical and Physical Society of Calcutta in 1829.



Richard Poynt.

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ETC. ETC. ETC.

PHYSICIAN EXTRAORDINARY TO THE QUEEN.

“*Studio fallente laborem.*”—HORAT.

THE pursuits of the physician in alleviating the sorrows and sufferings of the distressed, and oftentimes in the higher office of “ministering to a mind diseased,” are such as cannot fail to give sincere delight to a liberal spirit. To feel this happiness in its full force, requires, on the part of the practitioner, an extended knowledge of his profession. To obtain this, he must be well acquainted with various sciences, and ardently seek aid from every source of information. Sir William Temple tells us, that “it is certain the study of physic is not achieved in any eminent degree, without very great advancements in other sciences, so that, whatever the profession is, the professors have been generally very much esteemed upon that account, as well as of their own art, as the most learned men of their ages, and thereby shared with the two other great professions, in those advantages most commonly valued, and most eagerly pursued; whereof the divines seem to have had the most honour, the lawyers most money, and the physicians the most learning.” The subject of the present memoir has not only exerted himself with the most indefatigable ardour, to obtain all requisite knowledge of his profession; but has also been most actively engaged in communicating that information to others, either through the medium of lectures, or the assistance of the press. Nor have the fine arts been deprived of their fair portion of utility, in contributing to this important end. The illustrations of morbid anatomy in Dr. Bright’s several works, are faithful representations of the various conditions of diseased structure, and show forth, most conspicuously, the many ills which “human flesh is heir to.”

RICHARD BRIGHT, M.D., is the third son of Richard Bright, Esq. of Ham Green, in the county of Somerset. He was born in Bristol, which city his eldest brother represented in three successive parliaments. The family is of old and respectable standing in Herefordshire, and its present venerable representative, to whom the manor and estate of Brockbury, in

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that county, have descended through many generations, is the lineal descendant of one of the best, most learned, and most eloquent men, of a pious, and learned, and eloquent age:—Henry Bright, of Brockbury, D.D., who lived in the reigns of Elizabeth and James.—For him, his old friend Joseph Hall, the divine and the poet, and successively Dean of Worcester and Bishop of Exeter and Norwich, composed a beautiful epitaph, still inscribed on his monument in the Cathedral of Worcester; and to his acquirements and usefulness, Fuller,* and Antony Wood,† have left most honourable and enduring testimony.

After having passed through the usual course of elementary education, first at a private school in his native city, and, afterwards, under a tutor in Exeter, he matriculated in the autumn of 1808, at the University of Edinburgh, where he resided in the house of the Rev. Robert Morehead, now Rector of Guisborough in Yorkshire, but at that time a clergyman of the episcopal chapel in Edinburgh, and in that office, the colleague of Mr. Alison, whose elegant work on taste has rendered him deservedly celebrated. During the first year, he devoted his attention exclusively to the general lectures delivered at the University, amongst which were those of Moral Philosophy and Political Economy, by Dugald Stewart; of Natural Philosophy by Playfair; and the Mathematical Lectures of Leslie, in the higher class of which, he, that year, successfully competed for the prize. In the session of 1809, he pursued the studies more immediately connected with his profession, and, besides attending the course of Chemistry by Dr. Hope, and the lectures on Anatomy by Dr. Monro, and on the Institutes of Medicine by Dr. Duncan, he availed himself of the excellent Anatomical course delivered out of the College, by Dr. John Gordon, whose premature death from fever, the profession had a few years after to deplore. In the summer of 1810, together with Dr. Holland, he accompanied Sir George Stuart Mackenzie to Iceland. The account of this interesting tour was published by Sir George in the following spring, to which Dr. Holland contributed an important chapter, on the literature and history of the country, also a chapter on government, laws, and religion, and another on the diseases of the Icelanders; and several descriptive passages were from the pen of Dr. Bright, who likewise wrote a General Sketch of the Zoology and Botany of the Island. On his return, he went to London, where he took up his residence within the walls of Guy's Hospital, living in the house of one of the officers of the establishment. At that time, Dr. Babington, and Dr. James Curry, lectured on the Practice of Medicine, Dr. Marcet and Mr. William Allen, and occasionally Dr. Babington, on Chemistry, Mr. Cline, and Sir Astley (then Mr.) Cooper, on Surgery. Mr. Cooper and Mr. Henry Cline, on Anatomy; Mr. Travers gave the Ana-

* Fuller's Worthies, vol. ii. p. 478. Edit. Nichols, 1811.

† Athenæ Oxon. by Bliss.—Fasti, vol. i. p. 237.

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tomical Demonstrations, and Dr. Haighton lectured on Midwifery, besides giving a very elaborate and original course of Physiology. He remained at Guy's during two years, and during this period, stimulated by the inspiring energy of Sir A. Cooper, he acquired a taste for pathological investigations, and I have seen a coloured sketch made by him at that time, representing one of those granulated kidneys, which ten years afterwards became, in his hands, the subject of a most interesting inquiry.

In 1811, he read a paper on the strata in the neighbourhood of Bristol, before the Geological Society, to whose Transactions, in 1818, he also furnished a communication upon the "Hills of Badaeson, Szigliget, &c. in Hungary.

In 1812, he returned to Edinburgh, attended closely the lectures on the Practice of Medicine, by Dr. Gregory, and those of the other lecturers in the University, amongst whom were, at that time, Dr. Rutherford and Dr. Home on Clinical Medicine, Materia Medica, and Botany. He attended, also, the lectures of the Regius Professor, Dr. John Thomson, and of Dr. Andrew Duncan, who was the first in this country to deliver a full course on Medical Jurisprudence, in doing which, he drew largely from his stores of German literature. Dr. Bright took an active part in the discussions of the Royal Medical Society, of which he was chosen one of the Presidents, and where he read a paper on *Retroversio Uteri*, and another on Gangrene. He was also a Member of the "Speculative Society," an association which numbered amongst its supporters, a large proportion of those who have been most eminent at the Scotch bar, and some of the students who frequented Edinburgh for the purposes of general literature. He also attended a course of Natural History, more particularly devoted to Mineralogy, delivered by Professor Jameson, who, at that time, enjoyed a high reputation as one of the favourite pupils of the celebrated Werner, and used frequently to make mineralogical excursions with his class to the Pentland Hills, and the whole interesting neighbourhood of Edinburgh. On the 13th of September, 1813, he graduated, having written his thesis *De Erysipelate Contagioso*, in which he adduced many striking examples of the apparent communication of the disease.

It was at this time his intention to graduate likewise at Cambridge, and with this view he entered at Peter House, in which college his brother held one of the lay fellowships; but after having kept two terms, he found that it was now hardly compatible with his pursuits and objects, to devote the necessary time to the college discipline, and he never resumed his residence. In the winter he became a pupil at the Public Dispensary under Dr. Bateman, who was not only a man of great professional skill and knowledge, but was the chief authority of the day in eruptive diseases, and his excellent friend Dr. Laird, who was beloved by all who knew him. He now applied closely to the practical part of his profession, losing no opportunity of obtaining information, and looking with particular anxiety

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to pathological inquiries. During a considerable portion of this time, he resided in the family of the Rev. Mr. Marsnet, a most respectable and high-minded French Abbé, that he might take advantage of his society, to improve his knowledge of the colloquial idiom of the French language; and the continent being now opened by the general peace, he went abroad in the summer of 1814. He visited Holland and Belgium, seeing whatever most interested him professionally, and, having passed through Frankfort and Leipsic, spent some months at Berlin, where he had the advantage of frequenting the practice of Horn at the hospital of La Charité, and of Hufeland, who then took great interest in an establishment of practical medicine of the nature of a large dispensary, which was named the *Poly-clinique* Institution. He likewise made the acquaintance of Klaproth, and experienced the kindness and hospitality of Rudolphi, and of Heim, a man of peculiar and friendly habits, enjoying at that time the greatest reputation as a practitioner of medicine in Berlin. During his residence in the capital of Prussia, Dr. Bright lived in the family of a professor of one of the public schools, that he might read German with him in his leisure hours, and improve his power of conversing in the language. Leaving Berlin, he spent a short time in Dresden, and arrived at Vienna before the winter had quite set in. Although it was a period unfitted for pursuing professional objects, he took occasion to attend Hildembrand in his visits to the clinical ward, which formed a very striking part of the extensive general hospital. He also frequently followed the visits of Rust, and saw much of the practice of Beer, the celebrated oculist, both at his own house and at the hospital. He had likewise the pleasure of becoming intimately acquainted with Baron Jacquin, and with his aged and interesting father, whose name is so deeply associated with the progress of botanical knowledge, and who transplanted from the tropical climates a store of botanical treasures, to enrich the imperial conservatories of Schönbrunn. With Prochaska also, and the elder Franck, to whom the spread of clinical instruction in medicine owes more than to any individual, he became well acquainted.

Of matters which passed before him unconnected with medicine, at the interesting period of the Congress, Dr. Bright has preserved some record in his published Travels. Having spent the winter in Vienna, he proceeded in the month of March to Hungary, and felt obliged, though somewhat reluctantly, to shorten his journey in that country, from a wish to avail himself of an opportunity, which he had secured some time before he left England, of filling a vacancy in the duties of house-pupil under the justly celebrated Mr. John Pearson. He arrived at Brussels about a fortnight after the battle of Waterloo, and found so much matter of professional interest in the hospitals, that he was detained there some days beyond the time when he wished to reach London. He there fell in with his former preceptor and kind friend, Dr. John Thomson, with whom, through the

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kindness of the military-medical officers, he had an opportunity of seeing all that was going forwards amongst the sick and wounded, both of our own and of the Belgian army, and the troops of Brunswick, as well as in the French hospitals, at a time when it was calculated that there were upwards of 20,000 sick and wounded in the city and suburbs of Brussels. Arriving in London, he devoted himself sedulously to the practical part of his profession, and, having completed the proposed period of study under Mr. Pearson, he resumed his attendance at the Public Dispensary, where he for some time discharged the duty of assistant physician.

In December, 1816, he was admitted a licentiate of the Royal College of Physicians, and shortly after was elected assistant physician to the London Fever Hospital, of which Dr. Bateman had hitherto been the sole physician; but which, on account of its recent augmentation, required an increase of the medical staff. His public labours were thus rather severe, and were varied and increased by attendance at Guy's Hospital as often as opportunity would permit; so that, although he had always entertained an intention of publishing some account of what he had seen in Hungary, it was not till 1818 that the work was accomplished.

In the midst of these occupations he was interrupted for several weeks by an attack of fever, which he caught at the Fever House during a very severe epidemic, and narrowly escaped with his life. In the autumn of 1818 an opportunity offered of again visiting the Continent, and, as he had yet scarcely laid himself out for private practice, after some consideration he determined to go. He spent several months in Germany, and passed by the Tyrol into Italy, returning through Switzerland and France. Shortly after his return to England in 1820, he took a house in Bloomsbury Square, and became a candidate for private practice. Having resigned his connexion with the Fever House, and retired from the Dispensary when he went to the continent, his public duties were now entirely confined to Guy's Hospital, of which he was elected assistant physician in the same year, and continued to discharge the duties of that office till 1824, when, on the retirement of Dr. Laird, he succeeded to the office of physician. In 1822 he undertook to give a course of lectures to the pupils of the hospital on botany as connected with *Materia Medica*, and this he continued in the summer months for three years. In 1823 he gave a course of clinical lectures in conjunction with Dr. Cholmley, which formed the commencement of that regular clinical course since continued in wards set apart for the purpose during six months of every session. In 1824 he took part in the lectures on the theory and practice of medicine with Dr. Cholmley, and, after lecturing together for three sessions, Dr. C. retired. During two or three sessions Dr. B. lectured alone, and afterwards associated with him Dr. Addison, with whom he still continues to deliver the annual course, and who are now jointly engaged in publishing a work on the "*Elements of the Practice of Medicine*," of which two Parts have already appeared.

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It was about the year 1827 that the Royal College of Physicians began to act more liberally on the law which had always existed, but had been very seldom brought into use, enabling the President, with the consent of the college, to introduce annually into the body of the Fellows one from amongst the Licentiates; and the first step was made by the elevation of Dr. Babington. In the year 1832 this honour was conferred in the same way upon Dr. Bright; and the following year, being appointed the Gulstonian lecturer, he chose as his subject "The Functions of the Abdominal Viscera, with Observations on the Diagnostic marks of the Diseases to which the Viscera are subject." These have been printed in the London Medical Gazette. In 1836, when the old law of appointing the censors according to a certain rotation was done away with, he was chosen to that office, with Dr. Paris, Dr. Chambers, and Dr. Holland. In 1837 he was appointed to read the Lumleian lectures, which he did, choosing for his subject the Disorders of the Brain, and also during the present year giving to the college a descriptive account of the pathological collection of the late Dr. Matthew Baillie.

In 1827 Dr. Bright published a quarto volume of *Reports of Medical Cases, selected with a view of illustrating the Symptoms and Cure of Diseases by a reference to Morbid Anatomy*. These Reports are formed by an arrangement of cases of various diseases of the most important viscera. Upon these subjects Dr. Bright has put forth opinions as to some peculiar changes of structure observable in the several viscera, which opinions have been borne out and established by future investigations. Such are his statements relative to the dependence of a peculiar class of dropsies on disease and irritation of the kidneys; some observations on peculiar changes in the structure of the liver; and on the influence of the peculiar state of the mesenteric absorbents on the symptoms of phthisis. Chemical investigation has been well applied by Dr. Bostock in the elucidation of the condition of the secretions furnished by the kidneys and the liver, and the analysis given add much to the value and interest of this work. The changes in the structure of the organs under different conditions of disease are beautifully illustrated by engravings made under the author's immediate inspection. The volume consists of the relation of ninety cases illustrative of the subjects mentioned, to analyze which would be foreign to the intention of this work. I can only point out the contents, marking what is new, and directing the attention of the professional reader to the publication itself for the details. The work must be regarded as one of the most valuable contributions to morbid anatomy this country has ever produced.

Dr. Bright is entitled to the praise of having first pointed out the connexion of disease of the kidney in cases of dropsy, where the urine is found to be *albuminous*, and coagulable upon the application of heat and nitric acid. In these cases the liver does not betray any considerable marks of disorder, the condition of the kidneys would therefore appear to be the

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primary cause of the dropsical effusion, whilst in other cases, where the liver has been found to be the seat of disease, the kidney has been unaltered in its structure, and the urine not coagulable by heat. This is indeed a most important discovery, and the treatment of various cases of dropsy must of necessity be regulated by a regard to the distinction. The morbid changes in the liver, and their consequent production of dropsy, in the opinion of Dr. Bright, appear to produce their effect by a general obstruction to the circulation through the branches of the vena portæ, and in this way to become the immediate cause of dropsical effusion. Some doubt may probably be entertained on this head, and it is certain that the effusion must not be referred to mechanical agency alone, for if this were to be esteemed the correct view of the subject in all cases of enlargement of viscera, dropsy ought to follow as a necessary consequence. This, however, is not the case, and pressure is therefore to be kept in view as one only of the causes able or likely to produce effusion by obstructing the course of the circulation. The morbid changes which take place in the structure of the liver, and the altered condition of the secretion of the organ, may perhaps be conceived adequate to the production of the effusion. Dr. Bright has not been inattentive to this, for he observes, that the changes which take place in the structure of the liver may fairly be expected to have much influence on the character of the bile; and partly with a view to illustrate the state of the bile relatively to the condition of the liver, and partly with a view to discover the nature of some of the changes to which the liver itself is subject, he solicited his friend Dr. Bostock to make some experiments on the constituent properties of the bile, the results of which are detailed in Dr. Bright's publication.

In 1831 Dr. Bright published a second volume of "Reports," in which he treats of the "Diseases of the Brain and Nervous System." He has divided the subject into three sections, under the heads of INFLAMMATION, PRESSURE, and IRRITATION, according to the prevailing morbid condition by which they are characterized. Forty plates represent these affections, and constitute a most valuable series of pathological illustrations.

Among "General Observations on the Diseases of the Brain and Nervous System," Dr. Bright justly remarks, that many of the diseases of the brain and nervous system admit of little satisfactory illustration from anatomical research; and that we are therefore induced to consider them as purely functional, though experience shows us that this view has often been the unintentional cloak for ignorance, and has materially retarded investigation. The principal phenomena of cerebral and nervous disease Dr. B. ascribes to inflammation, interrupted function, and irritation. To these he adds *Inanition*, or deficient circulation, as a very powerful cause of many derangements in which the brain and nervous system bear a prominent part; and it shows itself in that general want of power which depends on an inefficient supply of nourishing and stimulating blood to the brain.

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Under the several heads referred to, Dr. B. communicates a most valuable body of practical information, to which the practitioner can never refer without receiving instruction. His remarks on the communication of erysipelas, (already alluded to in his thesis,) and the various modes of treating this disease, are highly important. Headache he ascribes to a state of congestion in the vessels of the brain.

“That this symptom (says he) depends on various causes, and that it is connected with different conditions of the circulation in the brain, is not improbable; but in by far the majority of cases the actual condition of the vessels at the moment of the existence of headache is a state of congestion. Exhaustion from fatigue—exhaustion from the loss of blood—exhaustion from over excitement by mental exertion or bodily excesses,—all tend to produce a state of debility in the vessels of the brain which favours congestion: and these are the more ordinary circumstances under which headache occurs. The headache which follows apoplectic and epileptic attacks, that which torments the hysteric female, and that which so often attends on the dyspeptic stomach,—all probably depend on cerebral congestion variously modified and combined, according to the causes which give rise to it, or to the peculiar state of the constitution in which it occurs.”

Cases of chronic hydrocephalus give little ground for the adoption of any mode of treatment prospectively beneficial. Puncturing of the membranes, and evacuation of the fluid, have in some instances been attended with temporary relief; but in general such is the condition of the brain (as has been fully shown in the cases upon record where *post mortem* appearances have been detailed) as to forbid any sanguine expectations of advantage from any operation that might be proposed. Dr. Bright has given references to the principal cases in which puncture has been made, and he has detailed one of the most remarkable cases of chronic hydrocephalus on record, the subject of which was well known to me at the Borough hospitals. The case was that of James Cardinal, who died in 1825, being then twenty-nine years of age. He was hydrocephalic from birth, and his head was of an enormous size.

“On carefully taking the different measurements of the skull, it was found that its circumference at the part through which it was divided, and which was, as nearly as possible, its largest diameter, was $32\frac{1}{4}$ inches. The distance from the articulation of the jaw on one side, to the corresponding point on the other, measured over the vertex, was 21 inches: from the insertion of the *ossa nasi* into the frontal bone, to the posterior margin of the foramen magnum, $23\frac{3}{8}$ inches. The long diameter, from the projection of the *os frontis* to the projection of the *os occipitis*, where the skull was divided, was $10\frac{1}{2}$ inches, including the thickness of the skull; and one inch to the right of that line was eleven inches: the transverse diameter, measured across the foramen magnum, was 9 inches.”

So great was the quantity of fluid contained within his skull, that, when a child,

“if a candle was held behind his head, or the sun happened to be behind it, the oranium appeared semi-transparent; and this was more or less evident till he attained his fourteenth year. Fits of an epileptic character came on at about the age of twenty-three, and since that his health has rather suffered.” “He was

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near-sighted, but heard with remarkable acuteness; his taste was perfect, and his digestion good. His mental faculties were very fair: he read and wrote pretty well, but if he read long, his eyes were apt to be weak and inflamed: his memory was tolerable, but it did not retain dates and periods of time; and it was stated of him that he was never known to dream. There was something childish and irritable in his manner, and he was easily provoked."

Upon examination after death, the brain itself was found at the base of the skull. The upper part was filled by the dura mater, forming a large bag, and containing six or seven pints of transparent fluid, and within the ventricles there was about another pint. The brain, by pressure, had undergone various changes of appearance, which have been well figured in Dr. Bright's work. The particulars of the case deserve an attentive consideration. The continuance of life during such a number of years, the enjoyment of comparatively good bodily health, and a considerable degree of intelligence, render the case very interesting. Dr. Bostock has made a minute examination of the fluid in cases of hydrocephalus, and has detected the presence of urea. The account is inserted in Dr. Bright's "Reports."

In the *Observations on the Deranged Action of the Kidneys, as it affects the Cerebral Functions*, Dr. B. has some very important information. The connexion between cerebral pressure and diseased action and organic changes in the kidneys had been often remarked; and Sir Henry Hallford, in 1820, pointed out the frequent termination of *Ischuria renalis* in coma and apoplexy; and the subject has been further elucidated by Dr. Abercrombie and others. To no one, however, are we so much indebted for rescarches upon this subject as to Dr. Bright, who has pursued the inquiry in all its relations and connexions. The fruits of these are to be found in his work.

Dr. Bright has attempted a classification of hysteria, than which, perhaps, no subject is more difficult. Chorea he considers more the disease of males than females, "a chronic affection, often continued by habit, attended with no danger, but seldom admitting of a cure."

On the subject of hydrophobia, Dr. B. details some interesting cases. The nature of the disease is involved in great obscurity. From the absence of satisfactory morbid appearances, he is disposed to consider it as a functional disease, and therefore confidently to hope that means may yet be discovered by which it will be successfully combated.

This volume of "Reports" consists of more than 700 pages, and forms altogether a body of practical information reflecting the highest credit on the observation, penetration, and medical erudition of this learned physician.

Dr. Bright filled the office of President of the Medico-Chirurgical Society, and to the 18th volume of their Transactions he has contributed some *Cases and Observations connected with Disease of the Pancreas and Duodenum*. In the 19th Vol. he has *Cases and Observations*

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illustrative of Diagnosis, where Adhesions have taken place in the Peritoneum, with Remarks upon some other morbid changes of that membrane. Every aid towards obtaining a correct diagnosis in the investigation of abdominal disease, is of importance, and this paper is, therefore, entitled to the attentive regard of the practitioner. The cases of deposit of adventitious matter upon the peritoneum, are not less worthy of attention.

In the year 1817, a laudable example was set by the professional men across the channel, of publishing reports of the principal cases occurring in the Dublin hospitals, and such more extended communications as might appear to be necessary to illustrate the Practice and Pathology of Medical and Surgical Science. A plan attended with such marked success, and affording such evident advantages, has, however, not until late been pursued by any other body of practitioners. A few individuals have meritoriously attempted to effect the same object, but they have not been able sufficiently to interest the profession solely by their own labours, nor, perhaps, to devote a sufficient portion of time to secure the regularity which such a task necessarily imposes. Dr. Andrew Duncan, jun. published *Reports of the Practice in the Clinical Wards of the Royal Infirmary of Edinburgh, during the months of November and December 1817, and January, May, June, and July, 1818*; and Mr., now Sir Charles, Bell, printed five parts of *Surgical Observations, being a Quarterly Report of Cases in Surgery in the Middlesex Hospital, in the Cancer Establishment, and in Private Practice*. These were published from 1816 to 1818. The benefit of this system, and the advantages arising from viewing diseases upon an extended scale, must be obvious to every one, and much credit is due to the principal officers of the Southwark hospitals for their adoption of the plan and the reports, which, under the able editorship of Dr. Barlow and Mr. J. Babington at Guy's, and Mr. South at St. Thomas's Hospital, have hitherto been submitted to the notice of the profession. To the Guy's Hospital Reports Dr. Bright has contributed largely, there being no less than ten papers in the six numbers already published.

It is to pathology we must look for the most satisfactory elucidation of the operations of the animal economy; more light has been obtained from this source, and more real advantage derived in physiological science, by researches into morbid anatomy, than by any other means, not even excepting the operations that have been performed upon living animals. To collect together, and to record the observations, therefore, made upon diseases on a large scale, such as is only to be met with in the hospitals and large establishments, is a matter of the very first moment, as a means of advancing medical knowledge, and our thanks are due to those who devote themselves to the performance of this task.

“ Without personal observation, medical science must decline — without recorded experience, it must at best be stationary—and it is only by a union of

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the two, that it can be rendered cumulative and traditive, and, consequently, progressive.”*

To aid in this work, Guy's Hospital affords the most ample advantages, for, in addition to the wards for the reception of five hundred patients, two spacious apartments, one containing twenty-three males, and the other eighteen females, are set apart for the purpose of clinical instruction; and into these such cases as the physicians may deem best fitted for instruction, are admitted. There is also an Eye Infirmary, containing twenty-eight beds for the admission of cases of disease of that important organ; and also, a small ward, or portion of a ward, for the special reception of such instances of uterine disease, as the obstetric physician may think proper to select for the information of the students in this class of diseases. The opportunities for acquiring information in surgical diseases, are not less distinguished. The accidents in the district of the hospital are very numerous, and give rise to many serious operations—the various forms of injury occurring among the working classes of society, are to be seen—in short, disease in all its forms and varieties, and affecting all temperaments and individuals of very opposite habits. These will be admitted to be abundant sources for observation. Let us now look at the results, as far as Dr. Bright is concerned.

1. *Observations on the Treatment of Fever.*

2. *Cases Illustrative of the Effects produced when the Arteries and Brain are diseased: selected chiefly with a view to the Diagnosis in such Affections.* All attempts to elucidate affections so obscure in their nature during life, are entitled to the most serious attention of the practitioner. The cases here narrated, are too numerous to give even in abstract; but they are calculated to exhibit some of the different forms which disease of the brain assumes, in consequence of a morbid change taking place in the condition of the arteries.

3. *Case of Tetanus, in which Quinine and Stimulants were administered extensively with success.*

4. In the previous notice of the “Reports,” Dr. Bright's discoveries relating to cases of Renal Disease, accompanied by the secretion of *Albuminous Urine*, have been adverted to. The second part of the Guy's Hospital Reports, contains *Cases and Observations* to display the subject in a greater extent; for not only are a variety of cases related, but the paper closes with an extended tabular view of the morbid appearances occurring in one hundred cases in connexion with this condition of the urine. An analysis of this view exhibits many curious facts relating to the derangement of different organs connected with the morbid changes, known as the mottled and granular kidney. One of the most remarkable circumstances is to be found in the frequency of its occurrence, and the derangement of

* Preface to the Reports, p. viii.

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other organs in connexion with it. Dr. Bright views the disease of the kidney as the primary organ affected, and the chief promoter of the derangement of the others. Next to the kidney in importance, in this respect, he regards the skin, the relations of which with the kidney are too well established to need elucidation. The disease thus particularly noticed by Dr. Bright, is remarkable for its fatality. He believes that not less than five hundred die of it annually in London alone. The disease once established, little indeed appears to be the chance of benefit from any mode of treatment. Dr. B.'s object, therefore, in the paper now under notice, is to impress upon the members of the profession the insidious nature of the disease, that they may be led to watch its first approaches with all the solicitude which they would feel on discovering the first suspicious symptoms of phthisis or of epilepsy. The symptoms and course of the disease, its probable causes, duration, &c., are well and faithfully detailed.

5. In part three of the Guy's Hospital Reports, Dr. Bright has recorded an *Account of a Remarkable Misplacement of the Stomach*. The stomach in this case was contained in a membranous bag, over parts of which a scanty distribution of muscular fibres could be traced, and it extended into the right and left cavities of the chest. The muscular bag was ascertained to be formed by a splitting of the diaphragm—a congenital malformation. The subject of this singular displacement was a female of the age of nineteen years at her death, delicate from her childhood, and affected by shortness of breathing. The slightest cause would occasion derangement of her stomach, and the chest was observed to be of a peculiar conformation.

6. *Observations on Jaundice*. These relate more particularly to that form of the disease which accompanies the diffused inflammation of the liver.

7. *Observation on the Situation and Structure of Malignant Diseases of the Liver*. This is an important communication, accompanied by plates illustrative of the several conditions of the diseased organ.

8. The fourth part of the Guy's Hospital Reports contains a paper of *Cases and Observations Illustrative of Diagnosis, where Tumours are situated at the Basis of the Brain; or, where other parts of the Brain and Spinal Chord suffer lesion from disease*. The difficulty of forming a diagnosis in the cases alluded to, is admitted by all practitioners; the record, therefore, of authentic cases, in which an opportunity has been afforded of watching the symptoms during life, and comparing them with the morbid appearances, are exceedingly important. Dr. B. has met with two cases where a tumour existed just beneath the tentorium, in contact with, or actually attached to, the petrous portion of the temporal bone, and pressing aside the pons varolii, and it is highly deserving of remark, that the symptoms bore a great resemblance in both cases, from which Dr. B. infers that—

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“in disease, as in other matters, there is a fixed relation, which it is possible we may discover between cause and effect;—a belief which is indeed essential, in order to render our investigations on the subject of diagnosis satisfactory and interesting.”

In the fifth and sixth numbers of the Guy's Hospital Reports, Dr. Bright has entered upon an inquiry into the nature of *Abdominal Tumours and Intumescence*, and illustrated the subject by some cases of *Acephalocyst Hydatids*. An arrangement of such a subject is of great utility, and Dr. Bright has formed his principally upon the parts affected. These he considers then as relating to the integuments, the peritoneum, the stomach, the intestines, the liver, the spleen, the pancreas, the mesenteric glands, the kidneys, the bladder, the uterus, and the ovaries. Then come those under the denomination of extra-uterine bodies, and aneurism. This arrangement is then subjected to the nature of the enlargement or deposit, by which the whole particulars are brought under consideration.

To arrive at a correct diagnosis, among other things, it is of great importance to fix the precise normal situation of the viscera contained within the abdomen. This, every one versed in anatomy knows to be a matter of some difficulty, for the position of organs is often various. This applies more especially to the arch and sigmoid flexure of the colon, which in different individuals present very different appearances. To facilitate the object in view, Dr. Bright has marked out the abdomen into regions, and assigned certain boundaries to the respective organs contained within. The importance of registering facts relating to the anomalous formations, and noting with precision the variations produced in the situation of the different viscera, will be readily admitted; and to facilitate this object, Dr. B. has materially assisted, by his invention of mechanical aids for this purpose. He has a figure of the outline of the abdomen, which can be used as in the mode of stencilling, and thus in a few seconds give a faithful representation of the position of any abdominal tumour. This subject will be best understood by a reference to the plates given in Dr. B.'s paper on this subject.

From this notice of the works of Dr. Bright, it will be apparent, that the great advantages offered to him by his course of study and opportunities of seeing disease, and the treatment of it, both at home and abroad, have not been neglected; he has, indeed, applied himself with a most commendable ardour to acquire every information connected with his professional pursuits, and he has communicated the results to his pupils and the profession in the most free and unreserved manner. He has reaped his reward—in the confidence of the public, the esteem of the members of his profession, and the honour bestowed upon him by his sovereign, being, upon the arrangement of her majesty's household, appointed one of the Physicians Extraordinary. His fame abroad is equal to his reputation at home. The diseased condition of the kidneys, which he has so well described, and

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to which he may fairly lay claim to originality, and the light it has thrown upon dropsical affections, has given rise to many laudatory remarks by various scientific foreigners, who have, indeed, not hesitated to designate the disease by the name of the author, and, whilst two able journalists call it *Morbus Brightii*,* another, with no less zeal, has denominated dropsy by the title of "*L'Albuminurie ou Hydropisie causée par maladie des Reins*."†

Dr. Bright's class of pupils at Guy's Hospital is extensive, and so far back as 1832 he was urgently solicited by his pupils to print an address delivered by him at the commencement of a course on medicine. In this address he takes a general view of the animal economy, and points out the nature and objects of medical science. The advice given to the students as to the course of study necessary to be pursued, and the importance of their avocations, are agreeably and powerfully depicted, and do equal honour to the feeling and discrimination of the worthy lecturer. His fitness to teach is amply shown by the deep sense of responsibility with which he is affected, and fortunate indeed are those pupils who fall under the guidance and tuition of so experienced a master. He is a Fellow of the Royal Society, and several other scientific institutions. He is also one of the Examiners of the Veterinary College, having, in that capacity, been associated with Sir A. P. Cooper, Sir B. Brodie, Sir C. Bell, Dr. Babington, and Dr. Cooke.

Dr. Bright has been twice married: first to Martha, youngest daughter of the late Dr. Babington; and secondly, to his present wife, the youngest daughter of Benjamin Follett, Esq., of Topsham, near Exeter, and sister to Sir W. W. Follett.

* Drs. Bresslar and Jacobson, in the *Analekten der Speziellen Pathologie und Therapie*, published at Berlin, 1837.

† Paris, 1838, par le Dr. Martin Solon.



B. L. Brodie

SIR BENJAMIN COLLINS BRODIE, BART.

F. R. S.

SERJEANT-SURGEON TO THE QUEEN.

Ἄν ἀριστεύειν καὶ ὑπείροχον ἔμμεναι ἄλλων.

Still to be first, and rise above the rest.

THERE are few members of the medical profession, in any of its branches, who have more assiduously exerted themselves to acquire scientific and professional information, and to disseminate that knowledge, than the respected surgeon whose labours I am now about to notice.

SIR BENJAMIN COLLINS BRODIE is the third son of the Rev. Peter Bellinger Brodie, M.A., rector of Winterslow, and an influential magistrate and deputy-lieutenant of South Wilts, and of Sarah, daughter of Benjamin Collins, esq., of Milford, near Salisbury. The late Dr. Denman married a sister of the Rev. P. B. Brodie, and an elder sister of Miss Collins was married to the late Sir George Staunton, Bart., the author of the well-known and excellent account of Lord Macartney's Embassy to China. Mr. Brodie, the eminent barrister and conveyancer, is the elder brother of Sir B. C. Brodie, and another brother is one of the representatives in parliament for Salisbury. Sir Benjamin was born on the 9th of June, 1783; and he, together with his brothers, received a private education, having been brought up altogether in their father's house. Mr. Brodie took great pains with the education of his children; and Sir Benjamin has always said that he is mainly indebted, for the success he has met with in life, to the habits of perseverance which his father enabled him to acquire.

SIR B. C. Brodie commenced his professional education under the tuition of the late Mr. Wilson and Mr. Thomas, the present president of the Royal College of Surgeons, who at that time were teaching anatomy at the Hunterian School in Great Windmill-Street. In the year 1803, he became Sir Everard Home's pupil at St. George's Hospital. In October, 1805, he began to assist Mr. Wilson in teaching anatomy, and officiated as demonstrator until 1809, when he was associated with Mr. W. as lecturer in anatomy; and he continued to give a considerable portion of the anatomical lectures until

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the year 1812, when Mr. W. entered into a partnership with Sir Charles Bell, who, from that time, delivered lectures in his place. In 1808, he was appointed assistant to Sir Everard Home, surgeon to St. George's Hospital, by which he had the good fortune of obtaining an important public trust very early in life, more than a year and a half before he thought it worth while to put his name on his door as a candidate for practice. From this time he had the principal charge of Sir Everard's patients at the hospital, and for some years also the care of those of Mr. Gunning, who was permitted to retain his situation in the hospital while absent with the Duke of Wellington's army in Spain. Sir B. Brodie filled the post of assistant-surgeon for an unusually long period, not being elected surgeon until the resignation of Mr. Griffiths in 1822. About six months after his appointment as assistant-surgeon, he made his debüt as a lecturer on surgery, and he continued to give to a large class a regular course until 1830. Since that time he has confined himself to the delivery of a gratuitous course of clinical surgery during the winter. Clinical lectures, however, he had delivered from the year 1813, and, with the exception of one year, has never failed to perform this most important or professional duties. He received the appointment of Professor of Anatomy and Surgery to the Royal College of Surgeons in 1819, and held this office until 1823. He was elected a Fellow of the Royal Society in 1810, and was honoured with the Copley Medal in 1811, for his physiological contributions to the Philosophical Transactions. Upon the death of Sir Everard Home in 1832, he was appointed one of the Serjeant-Surgeons to the King: he attended their majesties George IV. and William IV., and is now Serjeant-Surgeon to the Queen. Upon his appointment as Serjeant-Surgeon, he had a Baronetcy conferred upon him, the patent of which bears the date of August 21, 1834.

The first paper published by Sir Benjamin Brodie was in 1809, in the 3d volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge: *A Case of Abscess of the Brain, which discharged matter by the ear.* These cases are of rare occurrence, and the present detail is valuable. It would appear to have existed for at least twelve years before symptoms of pressure occurred to prove fatal.

"In the left hemisphere of the brain there was a cyst, about three inches in diameter, of a pulpy consistence, thick, and vascular, and containing a thick, dark-coloured pus. The lower part of the cyst rested on the petrous portion of the temporal bone. There was a very small opening through the cyst, dura mater, and bone, forming a communication between the cavity of the cyst, and the meatus auditorius externus."

From this case, Sir Benjamin infers, that pressure on the brain is, on the whole, a more serious injury than the loss of substance in that organ.

In the Philosophical Transactions he has six papers: in the volume for 1809 he has given—

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1. *An Account of the Dissection of a Human Fœtus, in which the Circulation of the Blood was carried on without a Heart.* Other instances of this mal-conformation are upon record; but in the present case the child differed much less from the natural formation than those previously noticed, and furnished, therefore, an inducement for its particular examination. The child was one of a twin still-born at the seventh month of utero-gestation. Under the integuments of the neck and chest were two cysts containing fluid, which, when evacuated, gave to the child nearly a natural appearance, save that of having a hare-lip and a deficiency of some of the toes and fingers. Nothing unusual in the brain and nervous system was observed; but in the chest there was not found either a heart, a thymus gland, or a pleura. The thorax was filled with a dense cellular substance, and the parts corresponding to the lungs were two rounded bodies, not more than one-third of an inch in diameter. The diaphragm was membranous. There was no cardiac opening into the stomach, the intestines were shorter than usual, and there existed neither omentum, liver, or gall-bladder. There were also deviations in the arterial and venous systems. When the aorta reached the upper part of the thorax, it gave off the subclavians, and then divided into the carotids without forming any arch. At the time of the publication of this paper, Sir Benjamin was not aware that all cases of this description (as I believe first pointed out by Dr. Young) are of twins; and that the heart of one child maintains the circulation of the other, as in the instance alluded to in the Memoir of Sir A. Cooper, Bart. Sir Benjamin took an opportunity to mention this circumstance in one of his lectures delivered at the College of Surgeons in 1823.

2. The Croonian lecture for 1810 was by the appointment of the President of the Royal Society furnished by Sir B. Brodie. The subject selected was, *On some Physiological Researches respecting the Influence of the Brain on the Action of the Heart, and on the Generation of Animal Heat.* It may fairly be said, that in the whole range of subjects embraced by physiological science, there is not one of more importance than that chosen on this occasion. Anatomists have long known that the brain is not directly necessary to the action of the heart, and that the circulation of the blood ceases from the suspension of respiration, and not from the annihilation of the functions of the brain. Various experiments have been made, to illustrate this. Those recorded by Sir Benjamin in this lecture go to prove this fact—to show that if respiration can be maintained, even artificially, that the heart will continue to contract with strength and frequency, even though the spinal cord be divided from the brain. Sir B. contrived an apparatus to effect this, and at the same time carefully noted the circumstances connected with the secretion of the urine, which in these experiments was found to be suppressed. The conclusions he has drawn from this inquiry, conducted with great precision, and detailed with equal perspicuity, are as follow:

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“1. The influence of the brain is not directly necessary to the action of the heart.

“2. When the brain is injured or removed, the action of the heart ceases, only because respiration is under its influence; and if under these circumstances respiration is artificially produced, the circulation will still continue.

“3. When the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration and the circulation of the blood continue to be performed, and the usual changes in the appearance of the blood are produced in the lungs.

“4. When the air respired is colder than the natural temperature of the animal, the effect of respiration is not to generate, but to diminish animal heat.”

3. In 1811, Sir Benjamin communicated to the Royal Society, through a Society for Promoting the Knowledge of Animal Chemistry, an account of some *Experiments and Observations on the different modes in which Death is produced by certain Vegetable Poisons*. The society here alluded to was a private association, formed to promote the progress of a particular branch of scientific inquiry. The co-operation of men associated together for such a purpose appears well calculated to answer the object intended. The sphere of usefulness of the Royal Society, which should receive communications from bodies so composed, would be much extended, and it is greatly to be regretted that the plan has not been followed up. Sir Benjamin was assisted in these inquiries principally by Mr. Brande and Dr. E. N. Bancroft.

To ascertain the *modus operandi* of the various poisons, animal and vegetable, is a matter of great moment, inasmuch as it may serve to point out the means necessary to be adopted to obviate their fatal effects. It is rather surprising that a subject oftentimes so painfully interesting as toxicology, should have been so little attended to; and prior to the researches of Sir B. Brodie, it is not too much to say, that it had not received anything like a scientific investigation of the precise course by which the deleterious effects of poisons are exerted upon the animal economy. To ascertain the effects produced by different vegetable poisons, Sir Benjamin made experiments, in which the poison was applied in some instances externally upon wounded surfaces, and in others internally, that is, upon the mucous membrane of the tongue, and the alimentary canal. The poisons selected were—alcohol; the essential oil of bitter almonds; the juice of the leaves of aconite; the infusion of tobacco; the empyreumatic oil of tobacco; the woorara; and the upas antiar. In the course of these experiments, Sir Benjamin found that by maintaining respiration, the circulation could be made to continue, though the animal be under the decided effects of the poison, as manifested by complete insensibility, and the loss of the power of generating animal heat. This is an important consideration—it is evident that, at least, time may thus be gained, to employ remedies to counteract the effects of the poison, and recovery probably effected. This, indeed, was the case in one of the experiments upon a rabbit, which had been

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inoculated with a drop of the oil of bitter almonds. In two minutes the poison began to act; in five, death had apparently ensued; but the heart continued to beat. Artificial respiration was kept up at the rate of thirty-five times in a minute. After six minutes, the animal moved his head and legs, and attempted to breathe naturally—convulsions followed this effort, and he again became still—the artificial respiration was continued—he again essayed to breathe, and at the end of sixteen minutes his respiration had returned. In less than two hours he was well, and continued so. Had not the circulation been maintained by the artificial respiration, this animal must necessarily have died. The following are the conclusions drawn by Sir Benjamin from his experiments:—

1. “Alcohol, the essential oil of almonds, the juice of aconite, the empyreumatic oil of tobacco, and the woorara, act as poisons by simply destroying the functions of the brain; universal death taking place, because respiration is under the influence of the brain, and ceases when its functions are destroyed.

2. “The infusion of tobacco when injected into the intestine, and the upas antiar when applied to a wound, have the power of rendering the heart insensible to the stimulus of the blood, thus stopping the circulation; in other words, they occasion syncope.

3. “There is reason to believe that the poisons, which in these experiments were applied internally, produce their effects through the medium of the nerves, without being absorbed into the circulation.

4. “When the woorara is applied to a wound, it produces its effects on the brain by entering the circulation through the divided blood-vessels, and, from analogy, we may conclude that other poisons, when applied to wounds, operate in a similar manner.

5. “When an animal is apparently dead from the influence of a poison which acts by simply destroying the brain, it may, in some instances at least, be made to recover, if respiration is artificially produced, and continued for a certain length of time.”

4. The series of *experiments* mentioned above, were continued, and others made to explain the effects produced by animal poisons, and laid before the Royal Society in 1812. The poisons selected for experiment were—arsenic, muriate of barytes, emetic tartar, and corrosive sublimate; and the following conclusions respecting their action, have been most carefully deduced.

1. “Arsenic, the emetic tartar, and the muriate of barytes, do not produce their deleterious effects until they have passed into the circulation.

2. “All of these poisons occasion disorder of the functions of the heart, brain, and alimentary canal; but they do not at all affect these organs in the same relative degree.

3. “Arsenic operates on the alimentary canal in a greater degree than either the emetic tartar or the muriate of barytes. The heart is affected more by arsenic than by the emetic tartar, and more by this last than by the muriate of barytes.

4. “The corrosive sublimate, when taken internally in large quantity, occasions death by acting chemically on the mucous membrane of the stomach, so as to destroy its texture; the organs more immediately necessary to life, being affected in consequence of their sympathy with the stomach.”

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Sir Benjamin observes, that “the effects of mineral are less simple than those of the generality of vegetable poisons; and when once an animal is affected by the former, there is much less chance of his recovery than when he is affected by the latter.”

5. The Croonian lecture for 1810, treated of the influence of the brain in the generation of animal heat. In 1812, Sir Benjamin having continued his inquiries, laid before the Royal Society some *Further Observations* on the subject. Additional experiments seem to confirm the truth of his former opinions and conclusions. He found, that in proportion as the sensibility of an animal under the influence of a poison became impaired, so also was its power of generating animal heat; and, that if an animal was apparently dead from the action of the poison, and its circulation kept up by artificial respiration, the generation of heat was as effectually destroyed, as if its head had been removed from its body. And it followed, that if the artificial respiration could be pursued for a sufficient time to admit the effects of the poison to subside, that then, with the returning sensibility of the animal, the power of generating heat was also restored. In this paper, Sir Benjamin submits to the Society the results of his particular inquiries as to the condition of the respiratory function; and he has endeavoured to ascertain the relative quantities of air consumed in breathing by animals in a natural state, and by those in which the brain had ceased to perform its offices. From the experiments detailed, it would appear, that the influence of the brain and nervous system is not necessary to occasion the chemical changes effected upon the blood, in its transit through the lungs. This subject is one of such great importance, and the researches of Sir Benjamin are, in my opinion, of such value in determining a most difficult physiological inquiry, that it may not be uninteresting to my readers to have a sketch of the opinions that have been entertained by previous physiologists, and the state of the question as it at present stands, submitted to their notice.

The subject of ANIMAL HEAT is one of great importance, and involved in considerable intricacy. That it is connected with the respiratory process, is clear from various circumstances. The degree of heat possessed by an animal, is proportionate to the size of the lungs—cold-blooded animals have, therefore, small lungs compared with warm-blooded, whose lungs are capacious. The circulation is also affected by the respiration; and when the circulation is rapid, the heat of the body is greater than under a contrary state. Living matter is distinguished from that which is dead, principally by the power it possesses of resisting changes of external temperature, and maintaining an almost uniform degree of heat, independently of the condition of things around it. This power seems to depend upon the perfection of the organization, for animals highest in the scale of creation, and whose organs are the most complex, have this faculty in the highest degree. The temperature of the human body is 97°, or 98°; that of

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viviparous quadrupeds 100° , or 101° ; and of the oviparous animals, or birds, 107° , or 108° . That the temperature of animals shall remain the same uninfluenced by the medium with which they are surrounded, is a truth, as far as man and the higher animals are concerned; but not entirely so when applied to animals generally, as Dr. Reeve has shown in an ingenious "Essay upon the Torpidity of Animals." In animals that hibernate, or become torpid during a certain season, the temperature is diminished, the circulation becomes slower, the respiration is less frequent, and sometimes entirely suspended, and the action of the stomach and digestive organs, the irritability and sensibility of the muscular and nervous powers, are diminished and suspended.

The temperature of man varies a few degrees in disease or malformation. In those cases called blue-children, in which the foramen ovale remains open during life, the blood is not properly arterialized—the respiration is irregular, and the temperature of the body less than of those in whom the formation is perfect. The power, therefore, of maintaining temperature, would appear to be not a power of life, as it has been repeatedly stated to be, but merely a due and proper performance of the animal functions.

It is astonishing what excesses of temperature can be borne without affecting the natural standard of the human body: the Russians subject themselves to vapour baths of very high temperature, not less than 130° or 140° , and then roll their bodies in the snow; yet their natural temperature is unchanged. Duhamel communicated to the Royal Academy of Paris, (1764,) the relation of the case of the maid-servants of a baker at Rochefoucault, who could venture into an oven heated to 278° , and remain for twelve minutes; and Duhamel and Dutillet, themselves, sustained, for nearly five minutes, a degree of heat equal to 290° Fahr. Sir Charles Blagden, Sir Joseph Banks, Dr. Fordyce, and others, made experiments upon the same subject, and the results are detailed in the Philosophical Transactions, (1775.) The temperature of their bodies was stated to have risen not more than three or four degrees, although in a room heated considerably above the temperature of boiling water for a very long time. Dr. Currie immersed persons in salt water at the temperature of 40° , and he found the heat of their bodies reduced to 90° , and then to 88° , after which, it rose to 96° , and remained stationary.

When we consider that man is frequently placed in a medium from thirty to forty degrees below that of his own body, and that, notwithstanding this, he is capable of maintaining a uniform degree of heat, it cannot be a matter of surprise, that the power should be ascribed to an action of life—it will be necessary, therefore, to look into the phenomena connected with this subject, and endeavour to ascertain the efficient cause and source of animal heat, and the means by which its uniformity is preserved. The ancients fixed its situation in the heart, whence it was supposed to be distributed throughout the body, and they imagined the lungs to be of use in

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cooling the blood, and keeping it at a temperature adapted to the health of the body. I shall not detail the opinions of the chemical and mechanical philosophers, of the combustions and the fermentations that were supposed to take place between the different substances—of the rubbings between the blood and its vessels by the friction of the globes and the parietes of the extreme capillaries—these are now unworthy of attention; but I may allude to more reasonable doctrines, and among these must first be noticed the doctrine of Mayow, who was, I believe, the first to maintain that the purpose of the lungs was not to cool the heart, but to generate heat, which he conceived was effected by means of the absorption of the nitro-aerial spirit of the air. Black elucidated the matter further by demonstrating the similarity of the air expired to that produced by burning charcoal—hence the extrication of heat was attributed to a kind of combustion going on in the lungs. His hypothesis, however, based upon that of Mayow, fell to the ground, from his inability to answer the inquiries of his opponents as to the increased condition of the temperature of the lungs themselves where such a process was going on, and which, as the seat and centre of it, might reasonably be expected to give evidence of a superior degree of heat to that of all other parts of the body.

Lavoisier pointed out more accurately the exact nature of the effects produced by respiration in the lungs, and maintained Black's doctrine, that heat must be generated by the formation of carbonic acid in the lungs. To Black and Lavoisier succeeded Crawford, whose essay upon this subject is well known. Upon a series of well-contrived and most ingenious experiments, he formed a theory of animal heat which made it to depend upon the change which the air undergoes by its entrance into the lungs, agreeing with Black and Lavoisier as to the combustion of a carbonaceous body, and the consequent generation of heat; but he did not stop here, for he showed that the oxygen contained in the atmosphere not only entered into the formation of carbonic acid, but also converted the venous into arterial blood, which latter he found to possess a greater capacity for heat than venous blood, and he therefore conjectured the heat to be engaged in saturating the venous blood, and equalizing its temperature with that of the arterial. Further, he maintained, that by this operation the heat was not set at liberty in the lungs; but that this took place gradually in the course of the circulation, and was thus distributed to all parts of the body. This has been declared to be "one of the most interesting and beautiful specimens of the application of physical and chemical reasoning to the animal economy that had been ever presented to the world."

One of the remote effects of respiration consists in its maintenance of the heart's action and the process of sanguification, and can be illustrated by creating an artificial respiration after an animal has been decapitated or destroyed. The experiments of Sir B. Brodie, I have shown, illustrate the operations of the nervous system, and point out how far the evolution of heat

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can be maintained or produced under such circumstances. His experiments are not favourable to the chemical views of Crawford, for it was found that when the influence of the brain was cut off from the heart and blood-vessels, the generation of heat was suspended, yet the action of the heart, and the changes in the colour of the blood, could be effected. Further, Sir Benjamin found that it was not necessary, in order to produce this suspension of the generation of animal heat, that the head of the animal should be removed, for if an animal was killed by the administration of a powerful narcotic, the sensibility was destroyed, and the power of generating animal heat was as effectually prevented as in the case of the decapitated animal. But it was not necessary to destroy the animal to produce this effect, for as the action of the poison declined, and the sensibility was restored, the evolution of heat proportionably returned. These experiments, and the views founded upon them, have tended to subvert the doctrine of Crawford, which, for so long a period, had been received as completely satisfactory. They show animal heat to be mainly dependent upon nervous influence, and that as far as the respiratory organs are chemically concerned in the extrication of heat by the formation of carbonic acid, it can only be regarded as of a remote connexion with the subject. I say it must be looked upon as having a remote connexion with the subject; because it must be recollected, that in Sir B. Brodie's experiments, cool air, or, at least, air somewhat below the natural temperature of the animal, was employed, and the effect might therefore be to reduce the temperature otherwise occasioned by the generation of the carbonic acid gas. The air also thrown into the lungs, in these experiments, is independent of the volition of the animal, and the correspondence which exists between the different parts of the system. Nor did Crawford contend for the effect being manifested in the lungs; but by the passage of the blood in the course of its circulation, and principally in the capillary vessels. By an artificial inflation, a cooling process is established, and the heat is thus rendered latent. Le Gallois and Dr. Wilson Philip's experiments are opposed to those of Sir B. Brodie, and go to show a connexion between the diminution in the quantity of oxygen consumed and the deficiency in the evolution of heat where the process of an artificial inflation is employed. And Dr. Philip demonstrated that too large a quantity of air had been thus propelled into the lungs, and that if a smaller quantity was used, the cooling process was considerably diminished, and the power of the lungs in generating heat clearly exemplified. In one experiment, the temperature is absolutely stated to have been raised 1° , and Dr. Hastings has performed similar experiments with like results. From these experiments, and particularly those of Le Gallois, it is clear, that the evolution of heat bears an uniform relation with the consumption of oxygen. The French physiologist found the process influenced by a great number of circumstances: the laying an animal on its back, or being confined, tended to lower its temperature; for if operated upon when at

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liberty, the animal was found to consume more oxygen. The cooling was most rapid when the animal struggled much. The conclusion drawn by Gallois is, that the nervous system affects the temperature; but that it is by an indirect operation, so far as it contributes to bring the air into contact with the blood. Later experiments by Dr. Williams go also to show, that artificial respiration, when properly conducted, prevents the abstraction of heat which would otherwise take place; while in some cases the temperature was observed to be sensibly increased by this process.

In 1823 Sir Benjamin delivered at the College of Surgeons an important lecture upon this subject, which I cannot but regret has not been printed. In this lecture he alluded to the experiments of Dr. Chossat of Geneva, to show the effects produced by the division of the spinal chord in various situations. When the division was made in the upper part of the back, the animal cooled considerably. But he cooled much more when the division was made in the neck. In proportion as the section was made at a greater distance from the occiput, there was a smaller loss of animal heat; and when it was as low as the space between the eleventh and twelfth dorsal vertebræ, instead of the heat being lessened, it was actually increased, so that at the end of ten hours the thermometer had risen from 105 to 109. Dr. C. has also shown, that when the influence of the brain is withdrawn in such a way as not to destroy the power of breathing, the animal breathing by his own efforts cools as rapidly as a decapitated animal in whom the circulation is maintained by means of artificial inflation of the lungs.

6. In 1814, Sir B. Brodie submitted to the Royal Society *Experiments and Observations on the Influence of the Nerves of the eighth pair on the Secretions of the Stomach*. In the course of physiological inquiry already detailed, it will be recollected that Sir Benjamin found the functions of some of the secreting organs destroyed when the brain ceased to exert its influence on the system. The paper now referred to endeavours to illustrate this subject by showing that when a division is made of the *par vagum*, or eighth pair of cerebral nerves, the secretions of the stomach are suppressed.

I have now to direct the reader's attention to Sir B. Brodie's surgical works, which have been published in various volumes of the Transactions of the Medico-Chirurgical Society, and in distinct treatises. To the Transactions, Sir Benjamin has contributed ten papers:—

1. (Vol. IV.) *Pathological Researches respecting the Diseases of the Joints*.

2. (Vol. V.) *Further Observations on the Diseases which affect the Synovial Membranes of the Joints*.

3. (Vol. VI.) *Further Observations on the Ulceration of the Cartilages of Joints*. The arrangement of and observations made upon these diseases have been embodied in a work specifically devoted to this subject.

4. Vol. V. contains a small paper appended to a case of un-united

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fracture of the femur treated by seton by Mr. Wardrop, in which Sir Benjamin expresses his opinion that this method of treatment, originally proposed by Dr. Physick of Philadelphia, would prove a considerable improvement in surgery. It has been found to succeed best in fractures of the upper extremities.

5. (Vol. VII.) *Observations on the Treatment of Varicose Veins of the Legs.* The difficulty of treating these cases is well known to every surgeon. Sir Benjamin has successfully employed a means of cure without the risk of tying the vena saphæna—it is by dividing the affected branches by a peculiar bistoury, the cutting edge of which is on the convex side. The skin is left as entire as possible, and pressure is adequate to the checking of any hæmorrhage that may ensue. He limits this operation to cases in which there is considerable pain referred to a particular varix, or in which hæmorrhage is likely to take place from the giving way of the dilated vessels, or in which they occasion an irritable and obstinate varicose ulcer.

6. To a paper by the late Mr. Henry Earle on *Contractions succeeding to Ulceration of the Skin*, Sir Benjamin details the first case in which a cicatrix was removed for a contraction of the integuments of the neck. The deformity arising from burns, and the peculiar tendency to contractions of the skin in these cases, have always been a source of much trouble and anxiety. Means were adopted to render the cicatrix longitudinal instead of transverse, and in this case perfectly succeeded.

7. (Vol. XIV.) *Pathological and Surgical Observations relating to Injuries of the Brain.* This is a paper of considerable extent, and is systematically arranged under the following heads:—1. *Immediate Effects of Injuries of the Head as indicated by Dissection.* 2. *Concussion of the Brain.* 3. *Compression of the Brain.* 4. *Wounds of the Brain and its Membranes.* 5. *On some other Symptoms following Injuries of the Brain.* 6. *Treatment of Concussion.* 7. *Treatment of Compression not complicated with Wounds of the Brain or its Membranes.* 8. *Treatment of Contusions and Wounds of the Scalp.* 9. *Treatment of Fractures of the Cranium unattended with Depression.* 10. *Treatment of Wounds of the Brain and its Membranes.* 11. *On the Treatment of some other Cases which are not included under the foregoing heads.* From this statement it will be easy to perceive that any attempt at analysis in this necessarily brief memoir cannot be made; and all who are acquainted with the acuteness of observation possessed by Sir Benjamin, will not fail to form a proper estimate of the value of a contribution upon such a subject, and from one whose opportunities have been so great, and whose application has been so unabated.

8. (Vol. XV.) *An Account of a Case of Aneurism by Anastomosis of the Forehead, treated by the application of Ligatures.* Sir Benjamin has adopted the term given to this kind of aneurism by the late Mr. John Bell, as being sanctioned by custom, although he conceives it liable to objection,

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as any actual increase of the anastomosis of the smaller arteries, is not proved to exist. The vessels are simply dilated, elongated, and tortuous. The cases are rare, but of much interest. Attempts to cure this disease in this instance, by occasioning obliteration of the arteries, had proved unsuccessful, and Sir Benjamin resolved upon the application of ligatures. A complete strangulation of the aneurismal tumor having been thus effected, it sloughed off, and the patient perfectly recovered. This mode of treatment forms an important improvement in surgery. A short time since, and the carotid artery would have been tied, with a view of relieving such an affection—the issue would be doubtful. It seems scarcely correct to view this case as aneurismal, it is simply a pulsating tumor, formed by the enlarged and tortuous vessels.

9. (Vol. XVII.) *Account of some Cases of Chronic Abscess of the Tibia.* These are dissimilar to any related by other surgeons. They are strictly chronic. The difficulty attendant upon forming a correct diagnosis, must have prevented the earlier adoption of the correct mode of relief. The profession are indebted to Sir Benjamin for this addition to surgical science.

10. (Vol. XX.) *Pathological and Surgical Observations relating to Injuries of the Spinal Chord.* This is a valuable contribution to a department which stands much in need of elucidation. It offers, not an elaborate detail of cases, but a general statement of the result of his experience.

In 1818, Sir B. Brodie put forth, in the shape of a regular treatise, his *Pathological and Surgical Observations on the Diseases of the Joints.* This work has been well received by the profession, and a fourth edition was published in 1836. Diseases of the joints are so varied in their nature, and so formidable in their effects, that it is of the utmost importance to discriminate their several conditions, that proper medical means may be adopted. The confusion of the earlier surgeons by their indiscriminate use of the terms, white swelling, spina ventosa, scrofulous joint, &c., has frequently been productive of mischief; and much credit is due to Sir B. Brodie, for his attempts to mark with precision the symptoms attendant upon diseases of the different structures which enter into the formation of a joint. The constitution of a joint is complex in its nature, and each part has its own peculiar morbid affections. Sir Benjamin has contributed much to the improvement of modern surgery, by recognizing the distinctions which exist in these cases, and each successive edition of the work has been productive of greater advances of surgical improvement. Much yet, however, in the opinion of Sir Benjamin, remains to be done, and this opinion he has most modestly expressed in the preface to the last edition.

“ I trust that I have sufficient love of science to lead me to desire nothing so much as the attainment of truth; and that I am not so vain as to believe that none of my views can be erroneous. Indeed, one principal result of my labours .

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has been to convince me, that life is not long enough for these difficult researches; that the utmost which can be accomplished by the zeal and industry of an individual, is to make such progress in the study of pathology, as may enable those who come after him to carry their inquiries further; and that the expectations of any one who aims at higher objects than these, must terminate in disappointment."

This book must ever form an essential part of the library of every surgeon, and I shall, therefore, abstain from any description of its contents.

In 1819, Sir B. Brodie was appointed Professor of Anatomy and Surgery to the Royal College of Surgeons, and he has published the *Introductory Lecture*, delivered on the 6th of May, 1820, in which he treats of the importance of anatomy and physiology—of the inseparable connexion of these branches of science, and of the interest derivable from a contemplation of the organization and functions of animal bodies, the laws which regulate the phenomena of life, and the changes which matter undergoes, and the form which it assumes, when associated with this mysterious and active principle. Sir Benjamin contends against the opinion that the phenomena of life are to be considered as dependent solely on organization. He believes them to be incapable of explanation, except on the hypothesis of there being in living bodies something superadded to organization, without which, he says, "they would be as incapable of executing their functions as the pendulum of a clock would be of vibrating, or its wheels of revolving, if they were deprived of the spring or weight, in which the cause of their motion resides."

In Vol. XIV. (1822-3,) of the Quarterly Journal of Science, and published at the Royal Institution, there is a paper by Sir B. Brodie, entitled, *Observations on the Effects produced by the Bile, in the Process of Digestion*. He applied a ligature around the *ductus choledochus*, to prevent the bile entering the intestine, and noted the effects produced on the digestion of the food. The results were uniform. He found that in these cases the formation of chyme in the stomach took place as usual; but that it never became converted into chyle. Not the smallest trace of chyle could be detected, either in the intestines or in the lacteals. The office of the bile he, therefore, concludes to be *to change the nutritious part of the chyme into chyle, and to separate the excrementitious matter*. These experiments will be found to confirm those previously made by Dr. Blundell, and noticed in his memoir.

In 1832, Sir B. Brodie published his *Lectures on the Diseases of the Urinary Organs*, which had previously appeared in the Medical Gazette. In the separate work they were improved and enlarged, and a second edition was published in 1835. Sir Benjamin's opportunities of seeing cases of disease of these organs, under all circumstances, and the frequency of their occurrence, render such a work of great practical value. In the most plain and unaffected manner he has given the results of his practice, and described the circumstances attendant upon those afflicting disorders.

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The different diseases of the urethra, bladder, prostate gland, the formation of calculi, the diagnosis of their presence, and the description of the operation of lithotomy for their removal, together with other means devised for the same object, and the causes of death after lithotomy, are all treated with a master's hand, and merit the closest attention of the surgeon.

In 1837, Sir Benjamin published a small volume of *Lectures Illustrative of Certain Local Nervous Affections*. These had appeared also in the Medical Gazette. His object was not to give a complete history of any particular disease, but to detail a certain order of symptoms having many characters in common, yet arising from various causes, and requiring very different modes of treatment. The number and variety of local nervous affections, must have excited the astonishment of every reflecting practitioner—effects are often looked upon as causes, and attentive observation, added to extended experience and sound physiological knowledge, can alone aid in unravelling the mysterious operations of the nervous system.

In 1837, Sir Benjamin delivered the annual oration at the Royal College of Surgeons, upon the birth-day of the late John Hunter. This commemoration, (founded by Sir Everard Home and Dr. Baillie,) of the extraordinary talents and genius of the great physiologist, is not devoid of interest or utility. Sir Benjamin was well calculated to do justice to the subject, and his Hunterian oration has been deservedly admired. He has given some interesting anecdotes of Cullen, William Hunter, and others, and has drawn a true picture of the character and genius of John Hunter.

In addition to the papers and works already noticed, Sir B. Brodie has contributed largely to the volumes of the London Medical Gazette. This periodical contains various papers and clinical lectures, delivered at St. George's Hospital.

In Vol. I. are, *Experiments and Observations, intended to explain the mode in which Death is produced by Lightning*. John Hunter has asserted that in persons killed by a stroke of lightning, there is an immediate destruction of the vital principle in *every part* of the body. Sir Benjamin's experiments go to show that it may act in various ways, and that in the majority of instances death is produced, as in cases of severe injury of the brain, by depriving that organ of the power of exercising its functions; in these cases, the heart will continue to beat for some time, and the contractility of the muscles is not destroyed. In this condition animal heat ceases to be generated, and the proper treatment of such cases is, therefore, to supply warmth, and maintain the heart's action by employing artificial respiration.

Cases of Needles extracted from various parts of the body.

Two Cases of Cysts containing a watery fluid, apparently connected with the Liver. The fluid was similar in both cases, and contained no.

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coagulable lymph. The application of heat occasioned nearly the whole to evaporate, leaving the smallest possible residuum of animal matter. About three pints in one case, and a pint and a half in the other, were drawn off. The patients did well. I am not aware of any similar cases having been recorded.

In Vol. II. *On Trephining the Tibia*. The tibia may be advantageously trephined in several cases :

1. "Where fungous growth arises from, or takes attachment to it;—2. where an abscess forms in the centre of the bone, having an external opening;—3. in necrosis;—and, 4. which is the rarest of the whole, where an abscess forms in the centre, without an opening externally; but where there are certain symptoms enabling you to determine the existence of the situation of the abscess."

Peculiar Affection of the Wrist, occurring in Hysterical Patients.

In Vol. V. *Introductory Lecture on the Conduct and Duties of the Medical Practitioner*. If the advice given in the discourse were followed by medical men in general, the character of the profession would be much raised in public estimation.

Observations on Certain Local Nervous Affections. These are embodied in his *Lectures Illustrative of Certain Local Nervous Affections*.

Use of Iodine in Morbid Growths. Sir Benjamin has employed iodine in a great number of cases of morbid growth, without much apparent advantage. He has, however, met with two instances of success beyond his expectations, and they are detailed in this communication.

In Vol. VIII. *Observations on Calculous Diseases*.

In Vol. IX. *Cases of Subclavian or Axillary Aneurism, for which the Subclavian Artery was tied*.

Clinical Lecture on Hydrocele and Hæmatocele.

In Vol. XI. *Case of Amputation at the Shoulder Joint*.

In Vol. XIV. *Clinical Observations on Un-united Fracture*.

Clinical Observations on Fatty Tumours.

In Vol. XV. *Clinical Observations on Encysted Tumours*.

Clinical Observations on Diseases of the Maxillary Antrum.

Clinical Observations on Hæmorrhoids.

In Vol. XV. XVI. XVII. and XVIII. *Clinical Observations on Diseases of the Rectum*.

In Vol. XVII. *Clinical Observations on Fistulæ in Perinæo*.

Clinical Observations on Tic Doloureux.

Clinical Observations on Compound Fracture of the Tibia, followed by Traumatic Delirium.

Clinical Observations on Corns and Bunions.

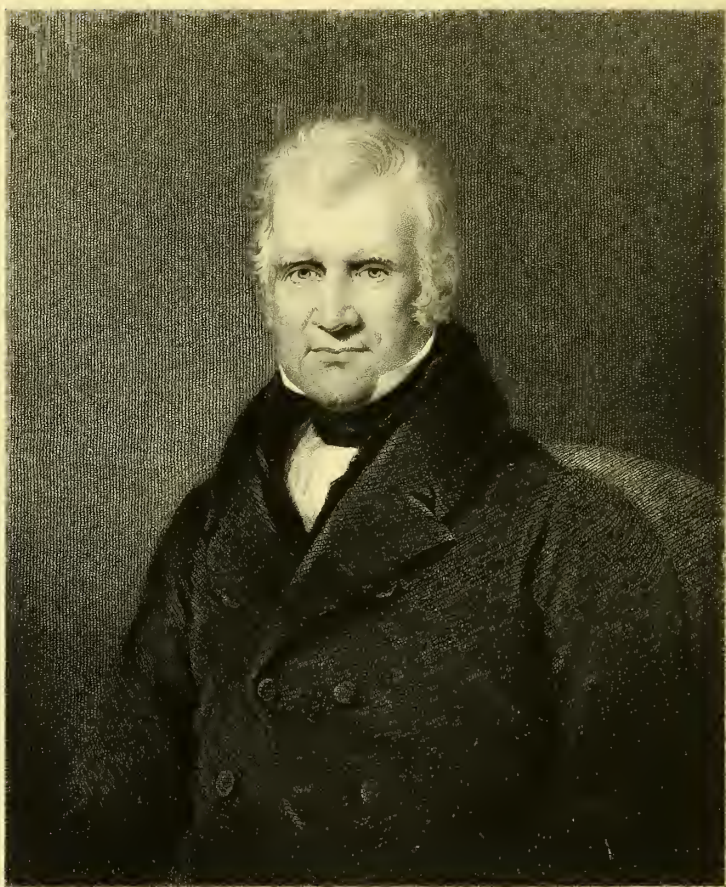
In Vol. XIX. *Lectures on Local Hysterical Affections*. (Published separately.)

With this summary of the labours of Sir Benjamin Brodie, I must close this present memoir; but I should not do justice to my own feelings, if I

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were not, in conclusion, to express my admiration of his talents and his zeal. His works may serve as a model to professional writers, for the style is clear, precise, and energetic; it never fails to put the reader in full possession of the meaning of the author; there is neither redundancy nor deficiency. His works are evidently the production of a philosophical mind, carefully pursuing a train of inquiry, and cautiously making its deductions. The same style distinguished Sir Benjamin as a lecturer—plain and easy in his delivery—acute and always to the point—not a sentence could be spared, for every sentence had its value—to lose it, was to lose the thread of the discourse—to break the connected series of argument or detail of facts upon which his opinions were legitimately based. He is now deservedly in the enjoyment of the first surgical practice in the metropolis; and, I believe, there is not a member of the profession, who will not cordially unite with me in the expression of a wish that his frame, naturally weak and delicate, may yet be able long to sustain such heavy labours, and that he may live to confer still greater benefits on his profession, by advancing the interests of science, and diminishing the sufferings of his fellow-creatures.

The portrait accompanying this memoir, has been expressly painted for this work by Mr. Henry Room. There is an excellent bust of Sir Benjamin, executed by Behnes.



H. Clutterbuck.

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“ If there were no Theorists in the world, how slow would be the advance of Science.”

JENNER.

THE progress of improvement in the science of medicine has, doubtless, been much retarded by the multiplicity of theories that, at different times, have been put forth. The exercise of ingenuity in the formation and propagation of systems founded only upon conjecture, and not based upon observation of the phenomena of nature, which alone can constitute true experience, have led to the adoption of erroneous views and dangerous practice. The late researches into the structure of the human body, in its healthy and in its disordered condition, and the arrangement of the whole system, according to the tissues of which it has been demonstrated to be composed, have done much towards dissipating the errors of former times, and establishing the science upon a more rational and certain basis. The history of medicine, indeed, presents to our view a singular picture of the folly and credulity of its professors; and an excellent writer, of great practical knowledge, the late Dr. Percival, has not inaptly remarked, that “a list of all the follies which, at different periods, have been established as articles of faith in medicine, would form the severest satire on the healing art.” A foreign writer* of no less ability, has also remarked, that if there be a science overcharged with superfluous babble, (*babage surabondant*,) it is, without doubt, medicine: none, says he, stands more in need of a true philosophical spirit to direct its reform. This has been the fate of medicine from the earliest times, for the philosophers of antiquity both improved and injured the science of medicine. They rescued it from undiscerning ignorance; but they precipitated it into a variety of hazardous conjectures: they delivered it over from the blindness of empiricism, to all the rashness of dogmatism. We must not, however, conceal from ourselves the real difficulties which attend the acquisition of sound medical knowledge. Vogel has shown, that “Medicine not only comprehends a most extensive range of knowledge, but that its truths are often so profound, and so much concealed from a cursory inspection; so intricate, so much disguised, distorted, and obscured by a multitude of delicate and invisible causes,—that nothing less than the all-commanding eye of the most enlightened understanding,—

* Cabanis.

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than the all-penetrating and all-searching power of genius, can possibly recognise that which is hidden in darkness; can follow that which is remote, into the last traces that it imprints; can distinguish certainty, from opinion and probability; can separate the essential, from the accidental; and, finally, can analyse and develop every subject of investigation so completely, as to leave no further doubt respecting any of its properties that are cognizable by human means." We ought ever to bear in mind that which has been forcibly pointed out by Cabanis,* and exercise the utmost caution in our inquiries; for the least erroneous view leads to some consequence. We must remember, that the lives of our fellow-creatures are at stake. How many cruel and premature deaths, how many impaired and debilitated constitutions, have paid for the follies of theorists!—follies, which have proved almost always fascinating. The study of a system, is more easy than the investigation of nature; and in practice it seems to smooth every difficulty. The mind loves to repose upon principles, which it believes itself entitled to substitute in the place of observation; and when these have been diffused to a certain extent, and have become a sort of creed for weak and servile understandings, should misfortunes accumulate, and victims fall a sacrifice under this new scourge of humanity, we are apt to look for the cause of these evils in frivolous circumstances, and are almost tempted to censure the eternal laws, without reflecting that these must always tend to our good.

These reflections have been called forth by the contemplation of the labours of one, to whom medical science is much indebted; of one who has deeply studied the Baconian philosophy, which points out the only sure means of advancing the knowledge we possess of medicine, by a practice founded on the observation of nature, and the infallible deductions of certain and approved experience. Medicine cannot lay claim to that degree of certainty which belongs to the mathematical sciences. Some doubts will remain, notwithstanding the most scrupulous investigation; and this induced a celebrated physician and moralist (Zimmerman) to consider physic as requiring a most liberal, active, and penetrating genius; for the physician being often obliged to confine himself to simple probabilities, will be unable to trace them to their highest degree, without an extreme share of penetration; and, from being almost constantly exposed to the application of principles which cannot be submitted to the evidence of the senses, he must necessarily become an inventor in the practice of his art. But here it is necessary to distinguish between true and false experience. The man who has seen the greatest number of patients, is not always the most expert practitioner—he is not always the most instructed:—to be such, he must have trained his mind to philosophical investigation;—he must have exa-

* Coup d'Œil sur les Révolutions et sur la Réforme de la Médecine. Paris, 1804. 8vo.

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mined nature and all her operations with a careful eye;—and he must have combined and arranged the ideas he has acquired through the medium of the senses, by the operations of the understanding. His researches must not be limited to the physical, but he must look to the moral man—he must make himself acquainted with the several passions, and trace their operations upon the human frame, both in health and disease. Not to possess this knowledge, or endeavour to acquire it, is reprehensible in the highest degree—the practice of physic without it, is little better than *empiricism*. True experience is the result of inquiries instituted to ascertain the effects observable in the physical or moral world, and established with the view of discovering their causes, together with the manner in which they may be supposed to act. This requires the possession of genius—a talent for observation and a power of reflection, without which, it is impossible to form, or to arrive at, any satisfactory conclusions. “Folly cannot be more opposed to right reason, than the modern empiric differs from the true physician.” The truth of this is very generally admitted, yet quackery reigns pre-eminent. It is most prevalent among people of fashion—it has ever been so, and there is not an empiric from the earliest time to the present day, who has not been able to number among his patrons and supporters, the names of many of the nobility. One generation improves little in this matter by the experience of the preceding. The measure of credulity is never full. Many submit to the nonsense uttered by an empiric, and yet affect to laugh at the jargon and despise the affectation of science; in England this exists in a greater degree perhaps than in any other country. From this painful consideration, let us now pass to a review of the course of study and the labours of an enlightened physician.

HENRY CLUTTERBUCK was born at Marazion, in Cornwall, Jan. 28, 1767. His father was a respectable solicitor there, and he was educated at the grammar-school of that town. He passed the usual period of five years apprenticeship with a surgeon in Truro, and then came to London in 1789, and attended the Hospitals of Guy’s and St. Thomas’s, and the lectures of Dr. Saunders and Dr. Skeete on medicine and *materia medica*, and of Dr. Babington (then apothecary to Guy’s,) on chemistry; and Mr. Cline, senior, on anatomy and surgery. Subsequently to this, he attended for two years the lectures and dissecting-rooms of the late Dr. Marshal, a distinguished teacher of anatomy at that period. In 1790 he was admitted a Member of the Corporation of Surgeons, and soon after he was appointed Surgeon to the Royal Universal Dispensary, which office he held for several years, having, as his colleagues, the late Dr. Bradley, editor of the *Medical and Physical Journal*, and the present Sir Alexander Crichton. He passed the session of 1802-3 at the University of Edinburgh, attending the lectures of Dr. Gregory, Dr. Monro, senior, and Dr. Hope, on the different branches of medical science; and he removed thence to Glasgow, where he graduated

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in 1804, taking, as the title of his inaugural thesis, *Tentamen Pathologicum, quædam de Sede et Naturâ Febris complectens*.

On his return to London at the end of that year, he became a Licentiate of the Royal College of Physicians. In 1808 he began to lecture on the theory and practice of physic, and subsequently on the materia medica and chemistry. This he continued to do till 1826, with a greater share of success than had fallen to the lot of any private teacher, since the late Dr. George Fordyce. The lectures were first given at his private residence, and afterwards at the General Dispensary, of which he was appointed one of the physicians in the year 1809. On the establishment of the Aldersgate School of Medicine in 1826, his lectures were transferred from the dispensary to that school, where they were continued for five years longer, when he ceased to lecture altogether.

Dr. Clutterbuck held the appointment of Physician to the General Dispensary for a period of twenty-five years, resigning his office, under unpleasant circumstances, in 1833. These related to a difference of opinion which existed between the committee and the medical officers, relative to the qualification necessary to vote in the election of the professional men of the establishment; the former being anxious to permit any one, upon the subscription of a guinea, to have an immediate vote; the latter, for a continuance of a regulation requiring each voter to have been a subscriber six months previous to the exercise of such a privilege. This wise regulation had been adopted in consequence of some disgraceful scenes that had taken place at previous elections, a recurrence of which it was desirable to prevent. The committee, however, could command on this matter the majority of votes, and Dr. Clutterbuck was therefore induced to resign his connexion with an establishment of which he had long been the principal ornament, and the prosperity of which his talents and character had most essentially promoted. In this step he was joined by his medical associates, Drs. Birkbeck, Lambe, and Roberts, and Messrs. Salmon and W. Coulson. The occurrence gave rise to numerous meetings of medical societies and other professional bodies, and addresses were forwarded to them, expressive of thanks for their opposition to what was considered a corrupt principle. The writer of this Memoir had introduced to the institution His Royal Highness the Duke of Sussex, who was pleased, in consideration of its being the parent dispensary in London, to become its President. He approved the conduct of the medical officers, and withdrew the patronage he had afforded to the charity.

With the exception of the thesis already mentioned, Dr. Clutterbuck's earliest production is, *An Account of a new and successful Method of Treating those Affections which arise from the Poison of Lead: to which are added, General Observations on the internal use of Lead as a Medicine*. This was published in 1794. The object of the pamphlet is to show, that

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the operation of mercury in the system is not only different from, but in direct opposition to, that of lead. This he does, by contrasting the effects of these two poisons. Thus lead, he observes, produces torpor, or want of action in the muscular system—an inability to act at the instigation of the will is observed in the muscles of the hands and arms, which remain in a great measure motionless: upon dissection, after death, in these cases, the affected muscles appear flabby and loose in texture, and of a pale unhealthy colour, like muscles which have remained long inactive. Mercury, on the contrary, when used to excess, produces an increase of irritability in the whole system, muscular as well as vascular—the action of the heart is quickened, and a febrile state ensues. Inflammation arises in different parts, the mouth more especially; and the intestines are thrown into a state of violent action, with dysenteric purging, instead of the colic and constipation that follow the use of lead. Tremors of the hands, and likewise in the muscles of other parts, take place, altogether different from the inanimate state produced by the poison of lead.

This contrast between these two poisons rendered it not improbable, *à priori*, that the one might, in some degree, counteract the effects of the other, so as to prove an antidote to it. This supposition appears to have been confirmed by the result of several cases here detailed, which occurred in the practice of the Royal Universal Dispensary. One of these was communicated by Dr. Bradley, at that time Physician to the Westminster Hospital. It is mentioned in the pamphlet, as a remarkable circumstance, that persons labouring under the effects of lead, are susceptible in an unusual degree to the influence of mercury; so that salivation is induced by exceedingly small doses of this medicine. In speaking of the medicinal effects of lead, Dr. Clutterbuck adverts to its sedative and astringent properties, and quotes the authority of different writers in its favour; as, Avicenna, Paracelsus, Sproegel, Hundertmarck, Mr. White of York, and the late Dr. Heberden. He considers it not altogether improbable, that as mercury is an antidote to lead, the converse of this might also be true: but this is thrown out merely as an hypothesis.

In 1799, Dr. Clutterbuck published a letter addressed to the late Dr. Joseph Adams, entitled, *Remarks on some of the Opinions of the late Mr. John Hunter, respecting the Venereal Disease*. In this work, Dr. Clutterbuck combats several of the theoretical points maintained by Mr. Hunter in his treatise on the subject, and which are laid down as the laws that govern the action of the venereal virus. In particular, he calls in question the truth of the remark made by Mr. H., “that new poisons are rising up every day, resembling the venereal in many respects, yet of a really different nature.” He thinks, on the contrary, that these anomalous cases, which have of late years been termed pseudo-syphilis, are nothing more than modifications of the lues venerea, rendered irregular by imperfect treatment, and especially by too much reliance having been placed on the

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maxim of Mr. Hunter, that when once the mercurial action is excited in the system, there is no use in continuing to employ the remedy longer; as all that it is capable of as a remedy, has been already effected. This leads, Dr. C. thinks, to a slight and inefficient use of mercury; and this he considers the principal cause of the frequent occurrence of secondary symptoms of late, which, he contends, were far less frequent formerly, when more severe and long-continued courses of mercury were in general use.

In the year 1795, he instituted the *Medical and Chirurgical Review*, a periodical work, containing a compendium of medical literature, foreign and domestic. This he continued to publish, without assistance, till the year 1809, having completed the fifteenth annual volume.

I have already mentioned fever as a disease that had engaged Dr. Clutterbuck's attention at an early period, and that it constituted the subject of his inaugural dissertation at Glasgow. There is no affection of higher importance for the consideration of the medical practitioner; it is to the physician, that which inflammation generally, is to the surgeon. Yet what discrepancy of opinion exists as to its nature and its treatment! It is a disease usually regarded as not admitting of cure; but capable of being conducted through its course. This is an old observation, as ancient, I believe, as Hippocrates; and it is well told of Dr. Pitcairn, whose animosity to quacks is well known, that upon once being asked his opinion of a certain work on fevers, he replied, "I do not like fever curers; we may guide a fever, we cannot cure it. What would you think of a pilot who attempted to quell a storm? Either position is equally absurd. We must steer the ship as well as we can in a storm; and, in a fever, we can only employ patience and judicious measures to meet the difficulties of the case." When the febrile action is once clearly and decidedly established, I believe this opinion must be admitted as true. To conduct it safely, however, through its course, is a great desideratum; and the knowledge by which this is to be effected, is only to be attained by an acquaintance with its pathology. Let me now direct the reader to Dr. Clutterbuck's views upon this subject.

In 1807, appeared the first edition of his *Inquiry into the Seat and Nature of Fever, as deducible from the phenomena, causes, and consequences of the Disease, the Effects of Remedies, and the Appearances on Dissection*. A second edition of this work appeared in 1825. The object of the author in this publication is to show, that idiopathic fever, or fever strictly so called, instead of being a general affection, in which the whole system is concerned, is, on the contrary, a topical affection of the brain; and that it consists primarily and essentially in inflammation of the cerebral substance. This is proved, he thinks, by an analytical investigation of the symptoms that are essential to the disease; all of which, refer themselves to this organ as their source. Thus he alleges, that the sensorial, or proper functions of the brain, the animal functions, as they were formerly called,—

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namely, sensation, voluntary motion, and mind,—are constantly observed to be disordered in fever, and that always in proportion to the violence and danger of the disease; while the general disorder of the system, the febrile symptoms, such as furred tongue, hot skin, and frequency of pulse, are merely those which accompany inflammation in general, wherever seated, provided it exists with a certain intensity, or to a certain extent. The influence of this doctrine, if established, is, no doubt, highly important in a practical point of view, as it leads to the adoption of an antiphlogistic treatment in many instances, where an opposite practice has been generally applied. Dr. C., however, is anxious to have it well understood, that the use of indiscriminate bleeding in the cure of fever, is no necessary consequence of the admission of his doctrine: on the contrary, he shows, that although blood-letting is highly useful in certain circumstances of the disease, especially at the outset, it is no less detrimental in others; and, generally, that it is inadmissible in an advanced stage of it.

In the year 1819, he published *Observations on the Prevention and Treatment of the Epidemic Fever at present prevailing in this Metropolis, and most parts of the United Kingdom; with remarks on some of the opinions of Dr. Bateman, and others, on the same subject.* The fever here noticed, appears to have spread very widely in England, Scotland, and Ireland, and to have proved fatal in a great number of cases, the proportion of deaths varying from one in twelve, to as much as one in five or six. Dr. Clutterbuck gives a summary account of fifty cases that he carefully watched and noted, as occurring chiefly in the practice of the General Dispensary. Upon a revision of these, he remarks, that no two of them corresponded perfectly in the minuter points; though they all agreed in this essential one, that is, in a manifest affection of the brain and its functions, various, however, in degree, with numerous, but accidental, complications. The disease was very generally believed to be contagious, and in this opinion Dr. C. appears to concur, although, in many instances, the fever seemed to arise immediately from some common cause of disease; such as cold, fatigue, or intemperance, and where not the least reason could be discovered for even suspecting it to proceed from contagion, yet the disease has afterwards proved infectious to others; and he adds, that in both cases, the symptoms were quite undistinguishable. A similar observation was made by Dr. Percival of Dublin, in his *Account of the Fever, as it appeared in the Hardwicke Fever Hospital, in the years 1813, 14, and 15.* This leads naturally to the conjecture, that the circumstance of contagion will have no material influence on the effects of remedies, for, as Dr. C. observes, it is reasonable to suppose, that a disease which exhibits none but ordinary symptoms, is subject to ordinary means of cure; similar symptoms can result only from a similar condition of body; which, of course, will be influenced by similar means. This conclusion seems to be warranted by the cases detailed in the present work. The disease

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altogether, as here described, appears to furnish a strong corroboration of Dr. C.'s general theory of fever. The latter part of this volume contains a critique on the opinions regarding fever held by the late Dr. Bateman, physician to the Fever Hospital. Whilst, however, Dr. Clutterbuck does ample justice to the ability and candour of Dr. Bateman, he nevertheless opposes himself to some of his conclusions; and, at the same time, brings forward additional arguments in support of his own opinions. Dr. B. was an advocate for the employment of bloodletting in fever on numerous occasions, as much so upon the whole, indeed, as Dr. C. himself; but he employed it with a different view—that is to say, to relieve symptoms merely, but not to cure the disease: for example, to abate headache, watchfulness, too great sensibility to light, and too rapid a pulse, when these happen to be present in an unusual degree; but not directly for the purpose of relieving or removing the condition of the brain, out of which, according to Dr. C., such symptoms usually spring. This, it is evident, makes a wide difference in regard to the application of the remedy, especially as to the time of its administration. The cases here narrated, appear to afford the most satisfactory proof of the good effects of an antiphlogistic mode of treatment in the epidemic. The subjects of several of them were members of the medical profession; and, being referred to by name, may be considered as affording evidence of the most unequivocal kind. It is sufficient to mention the names of Dr. H. Blegborough, now residing at Richmond in Yorkshire; Mr. Powell, late a surgeon in the royal artillery; and the late Dr. Blicke, of Walthamstow; all of whom, as well as many others, came under Dr. Clutterbuck's care, and furnished a willing testimony to the good effects of the antiphlogistic practice, under the limitations suggested by him.

In 1837 Dr. C. published *An Essay on Pyrexia, or Symptomatic Fever, as illustrative of the Nature of Fever in general*. The object of this work is to show, that a febrile state of system, or what is technically denominated *symptomatic fever*, is always a secondary affection, the result of inflammation, and of no other cause; and that *idiopathic fever*, as it is called, affords no exception to the general principle here laid down: the only difference between this and other inflammations being in regard to the primary seat of the disease, which, in the case of idiopathic fever, is the cerebral substance, the febrile symptoms being merely secondary. The importance of the position here laid down, supposing it to be established, is very obvious, both in regard to diagnosis and practice; in the former respect, as enabling us to ascertain the existence of inflammation in many cases where the local symptoms are obscure; and in the latter, as leading to a more minute investigation of diseases, when accompanied by a febrile state of system, in order to discover, if possible, the primary affection—namely, the topical inflammation that caused the febrile symptoms. Dr. C., as it was natural to expect, applies this to the general doctrine of fever as before laid down, a disease in which the local affection is particularly obscured by the

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great general disorder that prevails throughout the system, and which seems to have been the chief cause of the topical origin of the disease being so long overlooked. It is but fair to state, that the connexion and dependence of fever upon inflammation has of late been advocated by several writers, both abroad and at home, though they do not always agree as to the primary seat of the disease being in the brain; M. Broussais, in particular, contending for the alimentary canal being the “*fons et origo mali*.” Dr. C. takes occasion in the present volume to remark on a work recently published, entitled *The Elements of Medicine*, the joint production of Drs. Bright and Addison; and he shows pretty clearly, by various extracts, that their opinions coincide, in all essential respects, with the doctrine of fever he had laid down; and, in short, that if they had adopted the term *brain* for the more extensive, but rather vague expression, *nervous system*, which they have employed, their theory and that of Dr. C. would be nearly, if not quite, identical.

Dr. Clutterbuck presided for four years over the Medical Society of London, and he has contributed two papers to the Transactions published by this Society. In one of these, he gives *Some Account of the Life and Writings of Nathaniel Hulme, M.D.*, one of the earliest members of the Society. He was physician to the Charter House, and distinguished himself particularly as the author of various interesting experiments on *Spontaneous Light*, which were published in the Transactions of the Royal Society for the year 1800. In the other paper, Dr. C. relates a *Case of Diseased Action of the Heart effectually relieved by Blood-letting, and confinement to a Horizontal Posture*. This is a short but an important practical communication, as it shows that symptoms of an alarming kind, and such as have usually been regarded as dependent upon organic disease, may be relieved, and by blood-letting, under circumstances which, in general, have been conceived to interdict the employment of such a remedy.

In the twelfth volume of the London Medical Repository, a paper, read by Dr. Clutterbuck before the Medical Society, has been printed. It is entitled, *Observations on the Nature and Preparation of the Elaterium*. This most active article of the materia medica was formerly prepared by expressing the entire juice of the wild or squirting cucumber, and then evaporating it to dryness. Prepared in this way, the medicine was subject to great uncertainty in regard to its purgative operation; and, accordingly, we find it recommended in very different doses by different writers, namely, from a quarter of a grain to two, and even as high as five grains; and that without any caution. Dr. C. wishing to obviate this uncertainty with regard to a highly valuable remedy, but which is not without danger if carried to excess, instituted a number of experiments for the purpose of ascertaining the best mode of preparing this extremely powerful medicine. He found, after many trials, that its active property resides, almost exclusively, in the transparent fluid that is lodged in the interior of the

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fruit, surrounding the seeds. This fluid, when collected, is at first perfectly limpid; but, on standing, it becomes opaque, and deposits, after a few hours, a flocculent sediment, which dries into a light powder, of a pale green colour. This is the real elaterium, and purges actively, and even violently, often with vomiting, in doses of the eighth part of a grain; it is also of uniform strength. This mode of preparing the medicine is now pretty generally followed.

Dr. Clutterbuck has furnished to the *Cyclopædia of Practical Medicine*, an article of considerable length, on the subject of *Apoplexy*. In this, it is worthy of remark, he condemns the excessive and almost indiscriminate use of bleeding, which is often practised in the present day.

In addition to the various works above enumerated, he has just completed *A series of Lectures on Blood-letting*, which were delivered from time to time, to his pupils at the General Dispensary, and which have recently appeared, in succession, in the pages of the Medical Gazette. They are about to be published in a separate form, with additions. The subject of blood-letting is here treated of very fully, in regard to its history, mode of acting, and application to different diseases. Dr. C. has had, unquestionably, very extensive opportunities of investigating the effects of this, the most efficient, and, at the same time, the most unequivocal of therapeutic agents; one which, as he observes, is powerful for good or for evil, according to the judgment and discrimination with which it is applied—one, also, we may add, about which the opinions of practitioners are by no means settled at present.

Dr. Clutterbuck has, for a great number of years, occupied a very prominent position as a physician, principally in the city. I formerly enjoyed abundant opportunities of witnessing his practice, and profiting by his judicious observations. As a lecturer, he was interesting, from the adoption of a colloquial style, which secured the attention of his pupils—his voice was always weak and of a low tone, but his words flowed freely, and, without pretending to elegance, were always well chosen, distinct, and perspicuous. His class was a very numerous one, and he was very highly esteemed by his pupils. At the Medical Society of London, he was considered one of the most valuable members; ever ready to communicate information, and paying a deserved regard to the opinions of others. His urbane conduct in the chair, ensured to him the respect of all the members. As a proof of the estimation in which his talents are held, it may, in conclusion, be remarked, that, in 1837, he was solicited to take the medical charge of the Peckham Lunatic Asylum, an establishment which contains three hundred insane patients; and this office he now continues to hold. He was also offered the Fellowship of the Royal College of Physicians; but this he was induced, at this advanced period of his professional career, to decline, along with Sir Alexander Crichton, Dr. Farre, Dr. Hodgkin, Sir James Clark, and others.



William Hunter.

WILLIAM HUNTER, M.D. F.R.S.

“Mark him well;
He meditates, his head upon his hand.” ROGERS.

WILLIAM HUNTER was born on the 23d of May, 1718, at Long Calderwood, in the parish of Kilbride, in the county of Lanark. He received his education at the college of Glasgow, whither he was sent at the age of fourteen. His conduct, during a period of five years, insured to him the esteem of the professors, and he had the reputation of being a good scholar. His education was regulated with a view to the church, which, however, he did not enter, from, it is said, the repugnance he felt to subscribing to the articles of faith, and a disinclination of, or rather insuperable aversion to, theological pursuits. An acquaintance with the celebrated Dr. Cullen, at Hamilton, determined him to devote his attention to physic; and in 1737 he took up his residence for three years with this eminent physician. After this he prosecuted his studies at Edinburgh, intending to return to Hamilton, and settle in partnership with Dr. Cullen. Dr. Simmons has reported of his manners and disposition, as told to him by Dr. Cullen, who says that “his conversation was remarkably lively and agreeable, and his whole conduct at the same time more strictly and steadily correct than that of any other young person he had ever known.” This cheerfulness and prudence appears to have accompanied him through life.

In 1741 he went to London, still further to prosecute his medical studies, and took up his residence with Mr., afterwards Dr. Smellie, well known by his works on midwifery. Mr. S. was at this time an apothecary practising in Pall Mall. William Hunter brought with him a letter of introduction from Mr. Foulis, the celebrated classical printer, at Glasgow, to Dr. James Douglas, who being at that time engaged in the preparation of a large anatomical work, readily availed himself of the abilities and industry of young Hunter, and engaged him to assist in his dissections, and also to undertake the superintendence of the education of his son. He now entered himself a surgeon's pupil at St. George's Hospital, under Mr. James Wilkie, and a dissecting pupil under Dr. Frank Nicholls, at that time the most distinguished anatomist of the day. Several of the preparations made by Hunter were engraved at the expense of Dr. D. who, however, never completed his work, as he died in April 1742,—a severe loss to Hunter, at this early period of his professional career.

The first paper I can trace as the product of William Hunter's pen is printed in the 42nd volume of the Philosophical Transactions. *On the Structure and Diseases of Articulating Cartilages.* This paper contains a very accurate description of the membrane covering the cartilages, describes the changes they undergo in ulceration, and accounts for the cure of their

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diseases by anchylosis, upon principles conformable to the nature and structure of the parts affected.

William Hunter was assiduously engaged in making anatomical preparations, and deriving such knowledge as might fit him to become a teacher, which appears to have been his object of ambition. He communicated this to Dr. Nicholls, who had declined his lectures about this time in favour of Dr. Lawrence, a most excellent scholar, the author of the life of Dr. N., one of the purest and very best Latin works in or relating to medical science. Dr. Nicholls did not offer much encouragement to Hunter, and his course as a teacher seems to have been determined by a society of naval surgeons, who had engaged an apartment in Covent Garden, where they had invited Mr. Samuel Sharp to deliver to them a course of lectures on the operations of surgery. This gentleman, whose "Critical Inquiry," and other works in surgery, are so well known and so highly esteemed, repeated his course, until, finding it interfere too much with his other professional pursuits, he declined the task in favour of Hunter, who succeeded so much to the satisfaction of his class, that they desired an extension of the course to anatomy; and in the winter of 1746 he commenced as an anatomical lecturer. His success was very gratifying. On August 6, 1747, he became a member of the Corporation of Surgeons, and shortly after he made a tour through Holland to Paris. At Leyden he became acquainted with Albinus, and examined his preparations, the beauty of which served to stimulate him to further exertions. He returned to London, to deliver his winter course of lectures. His practical labours embraced surgery and midwifery: to the former he entertained an aversion; and his particular cultivation of the latter is probably to be ascribed to his connexion with Smellie and Douglas. In 1748 he was appointed surgeon-in-an-midwife to the Middlesex Hospital, and in 1749 to the British Lying-in Hospital, so that he enjoyed abundant opportunities of acquiring information in the branch of medical science he had particularly selected. He rose rapidly in his profession, his person and manners uniting with his anatomical talents to advance him into notice. Sir Richard Manningham and Dr. Sandys at this time principally divided the practice of midwifery among the higher ranks of society; the former, who established a lying-in ward in St. James's Parochial Infirmary, (the first of the kind,) and lectured on midwifery, died; and the latter, who is named by Hunter as the discoverer of the *membrana pupillaris*, shortly after retired from practice. Dr. Sandys had a fine collection of anatomical preparations, which were purchased by Mr. Bromfield, and afterwards sold to Hunter for £200. The injected specimens were very fine, and Dr. Sandys is the first to have rendered them pellucid by the aid of spirits of turpentine.

William Hunter took a diploma of Doctor of Physic at the university of Glasgow, October 24, 1750, and from this time entirely abandoned the practice of general surgery. He commenced as a physician and accoucheur

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in Jermyn street. In 1756 he was admitted a licentiate of the college of physicians, and elected a member of the Society of Physicians, whence issued the "Medical Observations and Inquiries." To this collection he contributed ten papers:

1. *The history of an Aneurism of the Aorta, with some remarks on Aneurisms in general.* This case terminated fatally by an external opening. In the remarks following the detail of the case, Dr. Hunter divides aneurisms into three kinds: 1. *True*, or those produced by dilatation; 2. *false*, or those occasioned by rupture; and, 3. *mixed*, being those in which both of these causes combine to produce the disease. Dr. H. is the first to describe the aneurism now generally known since the time of Clegborn as the *aneurismal varix*, in which a communication exists between an artery and a vein, occasioned by puncture into the former through the latter, which accident has frequently occurred in the ordinary operation for phlebotomy, in persons where the high division of the brachial artery is found to exist, and the surgeon has been inattentive to such a distribution of the vessels.

2. *The History of an Emphysema.* This case arose from the fracture of a rib, and the effusion of air into the cellular membrane, extended over the whole of the body; but in the hands and feet it was inconsiderable. Incisions made in various parts relieved the patient. The case led to some important remarks on the cellular membrane, and some of its diseases.

3. *Remarks on the Symphysis of the Ossa Pubis.*

4. *Further Observations upon a particular species of Aneurism, (the Aneurismal Varix.)*

5. *Postscript to a Case of the Varicose Aneurism.*

6. *Appendix to a Case of Retroverted Uterus.*

7. *Summary Remarks on the Retroverted Uterus.* The precise nature of this affection was not distinctly known prior to Dr. Hunter's description of it in his lectures in 1754, and afterwards in the "Medical Observations and Inquiries."

8. *On the Uncertainty of the Signs of Murder in the case of Bastard Children.* This paper reflects great credit upon the humanity of Dr. H.'s character. His views upon the subject of infanticide, and the evidence by which it is to be determined, are entitled to every attention by the student of medical jurisprudence. He was the first to demonstrate the futility of the opinion, that if the lungs floated in water, the child must necessarily have been born alive.

9. *Three Cases of Mal-conformation of the Heart.* The first related to a preternatural conformation of the pulmonary artery, which, at its beginning from the right ventricle, was contracted into a solid substance or cord, absolutely and completely impervious; so that the lungs had not received one drop of blood from the heart by the trunk of the pulmonary artery. The child lived thirteen days. The second case was of a somewhat similar character; the pulmonary artery was so small at its beginning,

that it would barely give passage to a small probe; and the septum cordis was deficient, or perforated at the basis of the heart, so as to allow Dr. H.'s thumb, (a small one,) to pass across from one ventricle to the other, the orifice of the aorta being close to the perforation, so as to receive the blood from the right ventricle as well as from the left. This child lived thirteen years. The third case was of a still-born child at six months, the preparation of which was in Dr. H.'s museum. There was an opening of communication between the two ventricles, by which the blood of one cavity could pass into the other, without going through the usual circuit of the vessels.

10. *The successful cure of a severe disorder of the stomach by milk taken in small quantities at once.* A severe case of vomiting without any assignable cause, and cured by repeated exhibitions of very small quantities of milk, by which the frame of the patient was supported until he was able to take solid food.

In 1762, Dr. Hunter published, *Medical Commentaries, Part I., containing a Plain and Direct Answer to Professor Monro, jun. interspersed with Remarks on the Structure, Functions, and Diseases of several parts of the Human Body.* This was intended to be the first of a series of observations in anatomy, surgery, and midwifery; but the design was not perfected. This part is indeed principally controversial, and relates to claims made by Dr. Monro, jun. regarding some discoveries in the lymphatic system, the ducts of the lachrymal gland, &c.

One of the points in dispute related to the injection of the tubuli testis. Dr. Monro filled them with quicksilver in 1753; Dr. Hunter had done it a year previously; but Haller made and published the discovery in 1745. So, with respect to the ducts of the lachrymal gland—they were observed in the ox and in the sheep by Steno; Santorini and Winslow saw them in the human subject; but their existence was a matter of dispute when Hunter commenced lecturing on anatomy. He succeeded, however, in introducing some bristles into them in 1747, and Dr. Monro appears to have done the same in 1753. The priority is, therefore, due to Hunter. These are mere matters of observation, and of less importance than the points in dispute relative to the lymphatic system, involving opinions as to the doctrine of venous absorption. In a previous Memoir, (that of Dr. Akenside,) I have already alluded to this dispute, and it would, perhaps, be useless to pursue it further. The majority of professional men have declared in favour of the claims of Hunter, rather than those of Monro.

The eighth chapter of the "Commentaries" treats of the discovery of the membrana pupillaris, and of the insensibility of the tendons, &c. Dr. Hunter attributes the discovery of the membrane to Dr. Sandys; but he believes the claims of Wachendorf, Haller, and Albinus to have been also founded in justice. Albinus showed him a preparation of it when he was in Holland. Dr. H. lays claim to the originality of having declared the periosteum, dura mater, tendons, and ligaments to be either wholly insen-

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sible, or endowed with a very small degree of sensibility, and this doctrine he uniformly taught in his lectures—at first, in 1746, with some reserve, but afterwards with more confidence. Their sensibility in the natural and healthy state appears to be latent; but when roused by inflammation, to be more acute than that of more highly endowed parts. I have often been struck with this condition, which is probably referable to the firmness of the structures of these parts, and also of the bones and cartilages.

The ninth chapter gives an interesting account of the discovery of the hernia congenita, which was first noticed to Dr. Hunter by Mr. Sharp in 1748, and introduces an account of the state of the testis in the fœtus, and of the hernia congenita by his brother John Hunter.

In 1764 a *Supplement to the Commentaries* made its appearance, and gives a continuation of the dispute respecting the congenital hernia, particularly in reply to the observations of Mr. Pott, in the second edition of his work on that subject, and a *postscript* addressed to Dr. Monro, sen.

In 1762, Dr. Hunter was consulted respecting the pregnancy of the queen; and, in 1764, he was appointed Physician Extraordinary to her majesty. The extension of his anatomical class, and the labour of lecturing, added to his other numerous avocations, induced him to seek for assistants in the duties of teaching. He sent for his brother John, and he also selected from among his pupils an anatomist and physiologist of great ability, Mr. William Hewson, well known by his researches on the blood. This connexion continued to the year 1770, and Mr. Hewson was succeeded by Mr. Cruikshank, the author of the “Anatomy of the Absorbent Vessels.” Dr. Hunter was elected a Fellow of the Royal Society in 1767, and in the same year he communicated to the Society, *Observations on the Bones, commonly supposed to be Elephants’ Bones, which have been found near the river Ohio in America*. This paper shows Hunter’s zeal for natural history, and the correctness of his observations. He readily perceived that the teeth among these animal-remains did not correspond with those of the elephant; and his brother, John Hunter, marked them as belonging to a carnivorous animal. Further observations have shown the Hunters to have been correct in their remarks upon this subject. The bones are those of the mastodon of Cuvier. Dr. H. also contributed papers to volumes 60 and 61 of the Philosophical Transactions, in the year 1770. The former is an *Account of some Bones found in the rock of Gibraltar*; the latter, *An Account of the Nyl-ghau, an Indian animal not hitherto described*.

In 1768 he was elected a Fellow of the Society of Antiquaries, and also appointed to be Professor of Anatomy to the Royal Academy, instituted in that year. There is a picture of him by Zoffany, in which he is represented delivering a lecture on the muscles at the Royal Academy, surrounded by a group of the academicians. Hunter’s portrait is the only part of the picture that is finished. This appointment, made by the king, was very

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flattering to him, and he executed its duties with great zeal and enthusiasm. He pointed out the application of anatomical knowledge to the objects of painting and sculpture, and had abundant opportunities of evincing his refinement of taste, and appreciation of whatever is beautiful in nature or art.

In 1774 he put forth a work, by which alone his name would descend to posterity, and the execution of which reflects the highest credit upon his character. *The Anatomy of the Human Gravid Uterus* is one of the most splendid medical works ever published. It is not, perhaps, too much to say that the engravings have never been surpassed. It was printed by Baskerville at the Birmingham Press. Many of the dissections were by John Hunter. The work is in large folio, was dedicated to the king, and is printed in Latin and English, in parallel columns. I possess the copy which formerly belonged to Dr. Denman, the father of the present enlightened Lord Chief Justice of England. This is enriched with his MS. notes, and from these I learn that the preface was either translated into Latin, or corrected, by Sir George Baker, Bart. The work was commenced as early as 1751, and ten plates were prepared. Opportunities of dissecting the human gravid uterus are happily of rare occurrence, and it is fortunate that such a chance should have fallen into such able hands. The whole power of his mind seems to have been bent upon this object, and a determination to exclude as far as possible any imperfection whatever. This will account for the delay in the production of the work. A period of thirty years was necessary, to obtain sufficient instances to develop all the changes occurring in the human uterus during the progress of gestation. From these drawings, engravings, models, and casts have been made, since used by every lecturer on midwifery, and preserve their value to this day in as high a degree as at the time they were executed. There are thirty-four plates, drawn principally by Rymsdyck, and engraved by Strange, Grignon, Ravenet, Worlidge, Scotin, and others. The first ten plates were all taken from one subject. The twenty-sixth plate is intended to represent the retroverted uterus. Dr. Denman has justly marked an objection to this plate,—the subject can only be understood by a side view. The *membrana decidua reflexa*, or spongy part of the chorion which is reflected over the fœtus, a discovery due to Dr. H., is represented in plate twenty-seven. The work consists of plates, and the explanations of them. The treatise upon the subject was intended to be a separate production; but Dr. H. did not live to publish it. It remained for Dr. Baillie to submit this to the profession, which he did in 1794, as *An Anatomical Description of the Human Gravid Uterus and its Contents*, and dedicated it to Dr. George Fordyce, Dr. David Pitcairn, and Dr. Charles Combe, the trustees appointed by Dr. H. to the care of his museum. Dr. B. has added little to the MS. left by Dr. H., diffidence and delicacy forbidding him to add more than what appeared to be absolutely wanting. The work must be looked upon as a necessary illustration of the large folio volume of plates.

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In 1774, Dr. Hunter communicated to the Royal Society a paper *On the Origin of the Venereal Disease*. His object was, to prove that it was not brought into Europe by the crew of Columbus, and he founded his opinion upon the authority of Peter Martyr, a native of Italy, who went to Spain in 1487, and died there in 1525. Considerable doubt, however, being entertained with respect to the dates of this author's letters, Dr. H. abandoned his idea of giving the essay to the public. In 1777, he, conjointly with Mr. Watson, gave to the Royal Society *A Short Account of the late Dr. Maty's Illness*, which was published in the sixty-seventh volume of the Philosophical Transactions. The case was one of contracted colon and rectum, attended with ulceration.

In 1780, the Royal Medical Society of Paris elected him one of their Foreign Associates. In 1781 he was appointed to succeed Dr. Fothergill as President of the Society of Physicians, whose "Observations and Inquiries" have been already noticed; and it must be remarked, that this work ceased to be published beyond that volume in which Hunter's papers were contained. The greater part of the papers in the six volumes were communicated through him, and it is therefore reasonable to look upon him as having been the most effective of the members. In 1782, the Royal Academy of Sciences of Paris elected him into their body. The fame of Hunter was therefore not confined to his own country, and few foreigners, either professional or distinguished by eminence of any kind, failed to visit his museum. This collection was of a very universal character, contained the choicest specimens that could be obtained, and was easy of access to all men of science. He commenced making anatomical preparations whilst living with Dr. Douglas, and to illustrate his lectures subsequently delivered in Covent Garden. His selection of the practice of midwifery, his elegant manners, his sagacity, and his great knowledge of anatomy, soon rendered him a popular practitioner, and laid the foundation of his fortune. He speedily acquired a competency, and was enabled to reserve a sum to meet the infirmities and accidents of life. From this period, Dr. Simmons tells us, that he heard him to say, he once took a considerable sum for the purposes of his museum, but that he did not feel himself perfectly at ease till he had restored it again. His great object was to establish an anatomical school in the metropolis upon a most extensive scale; and to promote this, he addressed a "Memorial to the Earl of Bute," the First Lord of the Treasury. In this paper he set forth the advantages to mankind arising from a knowledge of anatomy, which he described as the only solid foundation of medicine, and being to the physician and surgeon what geometry is to the astronomer.

The difficulty of procuring bodies for dissection in his day rendered the formation of a great national school a desirable object. Even in London, no regular courses of anatomy were given prior to 1746; surgery and physiology therefore made but slow advancement. Dr. Hunter's solicitation

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was to have the grant of a piece of ground, upon which he might expend six or seven thousand pounds in erecting a building fit for the purpose of anatomical study, and a "*Plan for establishing a museum in London for the improvement of anatomy, surgery, and physic,*" was forwarded with the "memorial." Lord Bute recommended the plan to the Right Hon. George Grenville, and Mr. Hawkins presented a memorial to the king. Delay after delay, however, ensued, and the proposal fell to the ground. The Earl of Shelburne felt the utility of the scheme, and proposed that it should be effected by a subscription, and put his own name down for 1000 guineas. Dr. H. rejected this from motives of delicacy, and commenced building a theatre, museum, &c. on a spot of ground in Great Windmill-street, which has ever since borne the name of the Hunterian School. His collection of preparations embraced those of Sandys, Hewson, Falconar, Blackall, Fothergill, and others. The museum was not confined to anatomical preparations, or specimens of disease, human and comparative, but embraced all classes of natural history, and even antiquities. Neither were the arts or literature overlooked. He purchased paintings of a very high class of merit, and his collection of printed books, and MSS. was second only to that of Dr. Mead. The use of his museum, under the direction of trustees, devolved to his nephew the late Dr. Baillie, and in case of his death to Mr. Cruikshank for thirty years, at the expiration of which time it was bequeathed to the college of Glasgow, where it now remains. £8000 was left as a fund to support and augment it, and to the trustees £20 *per annum* for thirty years to execute the purposes of the will. The museum was transferred from London to Glasgow in 1807. Here an appropriate building from the design of Mr. Stark, was erected at an expense of £12,000 in the gardens of the university. The coins and medals are particularly rare and valuable. Dr. C. Combe published a catalogue of the first three divisions of the cabinet, with elegant plates, in a work dedicated to the queen, (who had assisted Dr. H. in obtaining some of the rarer specimens,) and entitled *Nummorum Veterum Populorum et Urbium qui in Museo Gulielmi Hunter asservantur Descriptio, Figuris illustrata operâ et Studio Caroli Combe S.R. et S.A. Londini Socio*. The library is particularly rich in classics printed in the 15th *sæc*. There are many copies on vellum. The Caxton's and Wynkyn de Worde's are both numerous and in good condition.

Dr. Hunter in person was slender, regularly shaped, but below the middle stature. His health had suffered from attacks of the gout; and in 1773, fearful of not being much longer able to bear the fatigues of his profession, he wished Dr. Cullen and Dr. Baillie to look out for an estate in his native country, where he contemplated passing the remainder of his days. A considerable estate in the neighbourhood of Alloa was selected; but the title-deeds proving defective, the plan was abandoned, and the expenses of the museum increasing greatly, by the additions he was con-

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stantly making, he resolved to remain in practice. His health, however, suffered by his exertions; the attacks of gout became more frequent, and were not confined to his limbs. On Thursday the 15th of March 1783, he was more than usually unwell; but had recovered sufficiently to induce him to deliver his introductory lecture to the course of operations on surgery, although dissuaded from it by his friends. Towards the conclusion, his strength was so exhausted, that he fell into a syncope, and was carried out of the theatre, and put to bed. The following night, (Dr. Simmons says,) his symptoms were such as indicated danger, and on Saturday morning Dr. Combe was alarmed on being told by Dr. H. that he had certainly had a paralytic stroke during the night. As neither his speech nor his pulse were affected, and he was able to raise himself in bed, Dr. C. encouraged him to hope that he was mistaken; but the event proved the doctor's idea of his complaint to be but too well founded—the intestines and bladder had lost their power of contraction, and he died on the 30th of March. He was buried on the 5th of April in the rector's vault of St. James's. His composure and resignation at the last deserve to be recorded. Turning to his friend Dr. Combe: "If I had strength enough to hold a pen, (said he,) I would write how easy and pleasant a thing it is to die."

"O, what a wonder seems the fear of death,
Seeing how gladly we all sink to sleep;
Babes, children, youths, and men,
Night following night, for threescore years and ten."

COLERIDGE.

Hunter's biographer has recorded, that

"His manner of living was extremely simple and frugal, and the quantity of his food was small as well as plain. He was an early riser, and, when business was over, was constantly engaged in his anatomical pursuits, or in his museum. It has been said that he was restrained by mere parsimony from indulging in the luxuries and amusements which captivate the generality of people who reside in this great city. But he seems to have had no relish for them, and contrived to live, in the midst of a crowd, master of himself and of his own pursuits. It may with truth be asserted, that he never suffered his economy to interfere in matters where the dignity of his character or the interests of science were concerned. There was something very engaging in his manner and address, and he had such an appearance of attention to his patients when he was making his inquiries, as could hardly fail to conciliate their confidence and esteem. In consultation with his medical brethren, he delivered his opinions with diffidence and candour. In familiar conversation he was cheerful and unassuming. All who knew him allow, that he possessed an excellent understanding, great readiness of perception, a good memory, and a sound judgment. To these intellectual powers he united uncommon assiduity and precision, so that he was admirably fitted for anatomical investigation."

I have often heard those who had attended his lectures speak in the highest terms of his ability as a teacher, and dwell with rapture upon his eloquence. He had a large fund of interesting anecdotes, and knew well how to apply these in illustration of his subjects, and thereby render his mode of instruction familiar and pleasing. His freedom of speech, and case

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in treating his subject, once occasioned him some little trouble. It was customary to deliver, at the conclusion of each course of lectures, a discourse on the mode of making anatomical preparations. This introduced the embalmings of the ancient Egyptians, and Dr. H. alluded to the process of preserving a body from putrefaction as a matter of little or no difficulty, and one that might most easily be accomplished. Among his pupils at this time was a man afterwards much celebrated in London by his singularity of manners and empiricism, the late Martin Van Butchell. Upon the conclusion of the lecture, he approached the Doctor, stated the interest he had felt upon the subject of embalming, and was anxious that the Doctor should effect this for him upon the body of his wife, who was at that time lying in the last stage of a consumption. The Doctor had spoken of the matter as being so trifling, that he could not refuse this request, and, upon the death of Mrs. Van Butchell, the operation was effected. I have given the particulars in my "History of Egyptian Mummies," taken from a MS. in the handwriting of Van Butchell, preserved in the library of the Royal College of Surgeons. The body is also deposited in the Hunterian Museum, to which it was presented by Mr. Van B.'s son, upon the decease of his father.

At Dr. Hunter's death, several MSS. were found—one on the gravid uterus has already been mentioned. There were also many cases of dissection, principally relating to midwifery; also materials for a history of the various concretions found in different parts of the human body, and two introductory lectures, corrected for the press by himself. These were delivered at his last course in Windmill-street, and published in 1784. They give an admirably condensed history of anatomical science, consider it in relation to general science and the arts, and detail his own plan of lectures and instruction.

Dr. Baillie has said of William Hunter, that

"No one ever possessed more enthusiasm for his art, more persevering industry, more acuteness of investigation, more perspicuity of expression, or, indeed, a greater share of natural eloquence. He excelled very much any lecturer whom I have ever heard, in the clearness of his arrangement, the aptness of his illustrations, and the elegance of his diction. He was, perhaps, the best teacher of anatomy that ever lived."

Dr. Hunter is to be looked upon as the founder of the anatomical schools of this country upon a rational and extended plan. He enriched the science, to which he was most ardently attached, with useful and splendid works, and he contributed, by his animation and zeal, to infuse into the minds of his pupils a love of anatomy, and a desire to further the advancement of medical science. His museum will long remain a noble monument of his industry and talents, and does honour to the land which gave him birth.

I am indebted to the kindness of Mrs. Baillie for the loan of the portrait of Dr. William Hunter, by Pine, from which the engraving accompanying this memoir has been made.



John Hunter

JOHN HUNTER, F.R.S.

“ One of the Few, Nature’s Interpreters,
The Few, whom Genius gives as Lights to shine.”

ROGERS.

It has been usual to describe John Hunter as a man of genius. He was such in the strictest sense of the word, if by it is to be understood the combined and collected powers of the mind in all their force and vigour. The term genius is more commonly applied to poets than to philosophers. In the former, the imagination is the faculty in the highest state of excellence; this is, perhaps, unfavourable to the exercise of true judgment, as it does not readily submit to the control of any laws or regulations. A genius observes with a keen eye every object that is around him, and is able to bring all under one point of view, and demonstrate the chain of connexion existing between the several parts. This faculty of *generalization* is, I conceive, one of the strongest proofs of the possession of genius, and herein John Hunter was pre-eminent.

“ As in the milky-way a shining white
O’erflows the heavens with one continued light;
That not a single star can show his rays,
Whilst jointly all promote the common blaze.”—ADDISON.

A competent authority* tells us that

“ The mind of John Hunter was bold and inventive, treading constantly in a path of its own, without regard to the common track which had been followed by others. This was aided by an industry and enthusiasm, of which it would be difficult to find any superior example; with such singular endowments for the cultivation of science, his progress was proportionally great. There is no subject which he had considered, where he has not added new light; and there are many which he has very much improved.”

JOHN HUNTER was born at Long-Calderwood, in the county of Lanark, on the 14th of February, 1728.† He was the youngest of ten children, and brother of Dr. William Hunter, of whom an account has been previously given. He was only ten years of age when his father died, and his

* Dr. Baillie.

† The exact date of his birth is somewhat uncertain; his register makes it February 13th; he considered it the 14th, on which day the Hunterian oration is annually delivered at the Royal College of Surgeons. Sir Everard Home, his brother-in-law, states it to be July 14th, 1728.

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education was much neglected. He had little aptitude for languages, and spent the greatest part of his time in country amusements. His brother William sent for him to London in 1748, and he became his assistant in the anatomical school. To ascertain his ability for such a task, it is said that William gave him an arm to dissect for the muscles, the perfection of which, for a first attempt, excited much approbation. His whole time was, thenceforth, devoted to dissection, and the acquisition of anatomical knowledge, and of this he so rapidly became master, as to be qualified to demonstrate and teach in the winter of 1749. Mr. Cheselden gave to him the opportunity of learning the rudiments of surgery at Chelsea Hospital; and, in 1751, he became a pupil at St. Bartholomew's Hospital.

In 1753, he entered as a gentleman commoner at St. Mary's Hall, Oxford, probably with the view of embracing physic as a profession; but upon this head his biographers are silent, and he is not reported to have kept any terms. It was, most likely, in accordance with the wishes of his classical brother, that he took this step, rather than by his own inclination, as Sir Anthony Carlisle says, that when a student at the hospital, Hunter said to him in allusion to this period of his life:

"They wanted to make an old woman of me; or that I should stuff Latin and Greek at the University; but, (added he, significantly pressing his thumb-nail on the table,) these schemes I cracked like so many vermin as they came before me."

In 1754, he entered as a pupil at St. George's Hospital, of which he became the house-surgeon in 1756, having, in the previous year, been admitted to a participation in the lectures delivered by his brother. A very large portion of the anatomical preparations in Dr. W. Hunter's museum, were made by his brother John, and his ability in this matter served to keep the two brothers united much longer than would otherwise have been the case, from the dissimilarity of their dispositions and temper. John Hunter was remarkable for his irascibility through life, and it probably served to shorten the duration of his existence. Dr. V. Knox has endeavoured to account for the irritability by which men of genius have so frequently been distinguished. They are for the most part, he says, in a state of intense thought, while those engaged in matters of less moment, and characterized by less refinement, are often involved in a kind of mental insensibility. As happiness must have its seat in the condition of the mind, it follows that every little accident is likely to disturb the repose of him who is constantly engaged in meditation, as the string which is always kept in a state of tension, will vibrate upon the slightest impulse. "Sensibility of mind, and fineness of feelings, are always the attendants of true genius." This may somewhat account for Hunter's irascibility.

John Hunter's success as an anatomist, has already been noticed in the memoir of his brother, as applied to the elucidation of the hernia congenita, the injection of the testis, the anatomy of the absorbent system, &c.

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Other parts of the human body received from him equal development; but his researches were not to be confined to the examination of the human frame. The texture of this wonderful machine is of too delicate and refined a nature, to admit of a satisfactory display of all its parts, or an exhibition of its several functions, without the aid of comparative anatomy. John Hunter's views extended to the whole empire of nature: he perceived, with Seneca, that she does not confine her operations to one form, but delights in variety; that she renews one figure out of another, and, not contented with uniformity in procedure, rejoices in undiminished power. The Hunterian Museum at the Royal College of Surgeons, shows to what an extent he carried his views, and presents altogether one of the most extraordinary efforts of human labour, directed by transcendent genius, ever presented to the world. This museum, so worthily deposited at the College, to which it was presented by the Government, is annually the subject of eulogy, by the establishment of a commemorative oration delivered before the members of the College, which is usually afterwards submitted to the press. The most eminent of the surgical profession have thus recorded the opinions they entertain of the labours of John Hunter; yet the subject is not exhausted, for it is indeed inexhaustible. The principal events of his life are well known, as they have been recorded by various biographers and eulogists, and renders other than a general notice of his discoveries in this work unnecessary. Yet to enumerate these alone would require a volume. There is no branch of anatomical or physiological inquiry that he has not enlightened, and there is no subject of surgery or medicine to which his researches may not lend a powerful assistance. His observations are all based upon general principles, drawn from the most attentive and scrutinizing observation of nature in all her operations; and all, from the huge mammoth to the most diminutive insect, have been rendered tributary to his fund of knowledge.

His exertions were greater than his health would permit, and, being threatened with a pulmonary affection, he was advised to go abroad. Mr. Adair appointed him surgeon on the staff, and in 1761 he joined the army, and went to Belleisle, leaving Mr. Hewson as the assistant to his brother in the anatomical lectures. He remained with the army as senior surgeon at Belleisle, and afterwards in Portugal, during three years; and this afforded him an opportunity of acquiring a knowledge of gun-shot wounds, the consideration of which is incorporated in his work on the blood and inflammation.

Returned to England, he settled in London, lectured on practical anatomy and operative surgery, and pursued his anatomical and physiological inquiries with unabated ardour. He built a house at Earl's Court near Brompton, and there kept numerous animals, to observe their instincts, and to make experiments illustrative of the subjects under his consideration.

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His attachment to animals was great, and Sir E. Home has told us some anecdotes, to show what risks this passion led him to undergo.

“Two leopards, which were kept chained in an out-house, had broken from their confinement, and got into the yard among some dogs, which they immediately attacked; the howling this produced alarmed the whole neighbourhood; Mr. Hunter ran into the yard to see what was the matter, and found one of them getting up the wall to make his escape, the other surrounded by the dogs; he immediately laid hold of them both, and carried them back to their den; but as soon as they were secured, and he had time to reflect upon the risk of his own situation, he was so much agitated, that he was in danger of fainting.”

“The fiercer animals were those to which he was most partial, and he had several of the bull kind from different parts of the world. Among these was a beautiful small bull he had received from the queen, with which he used to wrestle in play, and entertain himself with its exertions in its own defence. In one of these contests the bull overpowered him, and got him down, and, had not one of the servants accidentally come by and frightened the animal away, this frolic would probably have cost him his life.”

In 1767 he was elected a Fellow of the Royal Society; and he contributed to the Philosophical Transactions various papers independently of those communicated by Sir E. Home, and furnished as supplements to the writings of others. I shall notice these in the order of their appearance.

1766. *Supplementary Paper to Mr. Ellis's Account of an Amphibious Bipes*, of which he gives the anatomy.

1772. *On the Digestion of the Stomach after Death*. An important communication, demonstrating the action of the gastric juice upon the organ after the extinction of vitality, and frequently observed in cases of sudden death. Prior to the time of Mr. Hunter, it was looked upon as a morbid appearance, and the death of the individual was falsely attributed to this condition.

1773. *Anatomical Observations on the Torpedo*. This is a contribution to illustrate Mr. Walsh's papers. He displays the electric organs of the animal which are situated on each side of the cranium and gills, occupying a considerable space, being five inches in length and three in breadth at the anterior part. The perpendicular columns by which this extraordinary effect is produced vary in size and shape, and appear to be about 470 in each organ; but their number depends upon the size of the fish. The nerves supplying these parts are of very great size. The preparations are in the Hunterian Museum.

1774. *An Account of certain Receptacles of Air in Birds which communicate with the Lungs, and are lodged both among the fleshy parts and in the hollow bones of these animals*. Never fully described, or their connexions pointed out, until by Mr. Hunter.

1774. *Observations on the Gillaroo Trout, commonly called in Ireland the Gizzard Trout*. In this paper he takes a view of the digestive organs of animals. He shows that in the Gillaroo trout the stomach is adapted

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to breaking the shells of small shell-fish; but that it does not possess the power of grinding. He, therefore, considers it a true stomach for the office of digestion, and not a gizzard, as in birds.

1775. *An Account of the Gymnotus Electricus*. The electrical organs constitute more than one-third of the entire animal.

1775. *Experiments on Animals and Vegetables, with respect to their power of producing Heat*. His object in these experiments was to ascertain whether an animal could retain life after it was frozen, as had been asserted of fishes and snakes, which he determines in the negative.

1776. *Proposals for the Recovery of People apparently Drowned*. He looks upon a drowned person as one in a trance, though a recovery of the latter is more likely to take place than the former. In both, he says, "the action of life is suspended, without the power being destroyed." In this paper he intimates his opinions relative to the life of the blood.

1779. *Account of the Frce Martin*. He gives an anatomical description of three, and shows them to be hermaphrodites, differing from each other, as is the case in hermaphrodites in other tribes.

1780. *Account of a Woman who had the Small-Pox during Pregnancy, and who seemed to have communicated the same Disease to the Fœtus*. Small-pox pustules were found upon the body at the birth of the child.

1780. *Account of an Extraordinary Pheasant*. Mr. Hunter attributes the appearance of the plumage of the cock on the hen bird to the result of age and the cessation of breeding; but it has since been found to be connected with a disease of the ovary.

1782. *Account of the organ of Hearing in Fish*.

1784. *Anatomical Remarks upon a New Marine Animal*. This is a Postscript to a Paper by Mr. Home, describing the *Double-coned Terebella*.

1787. *Observations tending to show that the Wolf, Jackal, and Dog are of the same species*.

1787. *An Experiment to determine the effect of Extirpating one Ovarium upon the number of Young produced*. He concludes, that

"The ovaria are, from the beginning, destined to produce a fixed number, beyond which they cannot go, although circumstances may tend to diminish that number; that the constitution at large has no power of giving to one ovarium the power of propagating equal to two; for, in the present experiment, the animal with one ovarium produced ten pigs less than half the number brought forth by the pig with both ovaria. But that the constitution has so far a power of influencing one ovarium, as to make it produce its number in a less time than would probably have been the case if both ovaria had been preserved, is evident from the above-recited experiment."

1787. *Observations on the Structure and Economy of Whales*. This is an extended paper on a most interesting subject of natural history.

1789. *A Supplementary Letter on the Identity of the Species of the Dog, Wolf, and Jackal*.

1792. *Observations on Bees*. I have noticed his attention to the habits

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and instincts of animals at his house at Earl's Court. This paper gives an account of some of his observations.

1793. *Observations on the Fossil Bones presented to the Royal Society by the Margrave of Anspach.* These were principally of the bear species.

He also delivered the Croonian Lectures, on Muscular Action, for the years 1776, 1778, 1780, 1781, and 1782. These were not, however, published, being regarded by their author as incomplete. He received from the President and Council the Copley medal, in 1787, for his contributions to the Royal Society.

It will, probably, surprise, as it will amuse, some of my readers, to learn that in 1767, John Hunter met with an accident in dancing. He broke the *Tendo Achillis*. The occurrence of this injury served to promote the ends of science—his attention was directed to the particular nature of the accident, and he set about a series of experiments to ascertain in what manner nature repaired such an accident, and his preparations demonstrated it to be by an ossific union. In the ensuing year he became a Member of the Corporation of Surgeons, and was engaged in private practice, occupying the house formerly inhabited by his brother, in Jermyn-street. He received pupils into his house, and among other celebrated men, the late Dr. Jenner. The congeniality of their minds failed not to promote an intimacy, and to maintain an intercourse through life. In the memoir of Jenner, I have recorded a few circumstances illustrative of this, and many more may be found in the life of that estimable man, by Dr. Baron, and in a life of Hunter by Mr. Drewry Ottley, prefixed to Mr. Palmer's edition of the works of John Hunter. In 1768, upon the death of Mr. Gataker, he was elected one of the Surgeons of St. George's Hospital.

In 1771, he published his work on *The Natural History of the Human Teeth*; and seven years afterwards, a supplementary volume, *A Practical Treatise on the Diseases of the Teeth*. This work merits notice, as being the first of any extent, treating the subject in a scientific manner. The accuracy of Hunter's observations are apparent throughout, and although the more perfect work of Professor Bell may now supersede its use, it will yet remain as one of the evidences of the philosophical mind of its author. The work was translated into Dutch, and published at Dordrecht in 1773.

In 1773, he commenced as a lecturer on the theory and principles of surgery; and for two seasons he delivered these gratuitously. He was unsuccessful as a lecturer. His want of education, indifferent as he seems to have been upon the matter, was here severely felt, and he appeared in powerful contrast with his eloquent brother. Sir E. Home, who was his apprentice, as well as his relation, has spoken of his anxiety in the performance of the duties appertaining to him as a lecturer. He says,

“ He never gave the first lecture of his course, without taking thirty drops of laudanum to take off the effects of his uneasiness. He was so diffident of himself,

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that he trusted nothing to memory, and made me draw up a short abstract of each lecture, which he read on the following evening as a recapitulation, to connect the subject in the minds of the students."

As a lecturer, Hunter's manner was bad, his language embarrassed, and altogether inelegant; he scarcely raised his eyes from his book, and he much fatigued his class, which was never a numerous one, not exceeding thirty. Hunter was, however, too anxious to display his own views and opinions, and too sensible of the advantages to be derived by the practice of teaching, to give up an engagement, in a pecuniary view certainly of no consequence. Those only who have lectured, can be sensible of the amount of labour required to keep pace with all existing knowledge, upon the various subjects for consideration, and the advantage derivable from the necessity of exertion thus created. There is much sound sense in the advice of Erasmus, when he says, Teach others also; for by no means will you better discover what you understand, and what not. And, in the mean time, new ideas occur to you while you are enumerating and discoursing. *Alios quoque doceas; nusquam enim melius deprehenderis quid intelligas, quid non. Atque interim nova quædam occurrunt commentanti disserentique.* And Fichetus adds, that to procure solid learning, the safest and surest method is to teach; for to be able to teach, is a sign a man understands things himself; and it is also the surest step to knowledge. *Ad comparandam solidam doctrinam via tutissima certissimaque est docere: Signum enim scientis est posse docere, imo et gradus ad scientiam firmissimus.* Hunter compared the process of preparing a lecture, to that of a man taking stock—it enabled him to ascertain the amount of knowledge he possessed upon any given subject.

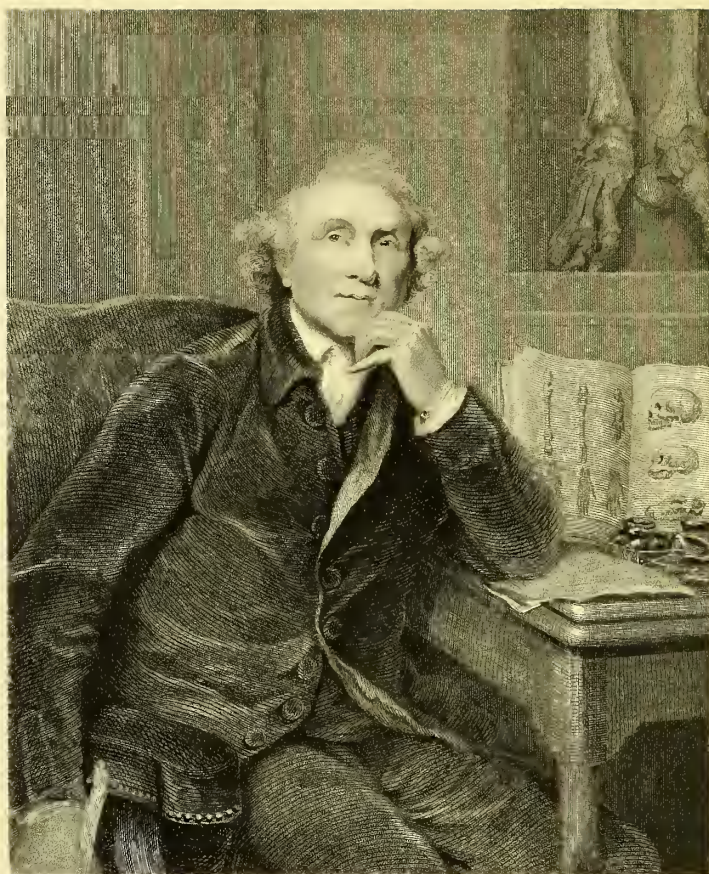
In 1776, Hunter was appointed Surgeon Extraordinary to the King; and in this year his health suffered so much, that he could not refrain from reflecting upon the condition in which he might probably leave his family, dependent entirely upon the produce of the sale of his museum, to which all his pecuniary acquisitions had been devoted. This determined him to commence a catalogue, and to complete an arrangement of the collection. Mr. Bell, an artist of considerable talent, a resident in Mr. Hunter's house, engaged by him to make drawings of the minute anatomical specimens and preparations illustrative of morbid anatomy, and Mr., afterwards Sir Everard Home, were principally engaged in this labour. A residence for some time at Bath, served to restore Mr. Hunter to health.

In 1783, he removed to Leicester Square, and erected a building, (now containing the museum of the Zoological Society,) for his collection, which occupied a room of fifty-two feet in length, and twenty-eight feet wide, with a gallery all round to contain preparations. Here were accustomed to assemble all who were distinguished for the promotion of literature, science, or the arts; and here were exhibited all that was rare of the productions

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of the three kingdoms of nature, introduced into this country. By the familiar interchange of discourse thus effected, Hunter acquired much information, for of him it may be said as of Lord Bacon, that, "in his conversations he contemned no man's observations; but would light his torch at every man's candle." The *Lyceum Medicum Londinense*, was established in these rooms, which, for many years, was a very flourishing Medical Society.

In 1784, Mr. Hunter contributed to the *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*, *Observations on the Inflammation of the internal Coats of Veins*. At the time of publication of this paper, the subject of inflammation of the veins was very ill understood. Mr. Hunter lent his powerful aid to the explanation of it, and the later researches of Dr. D. Davis, Dr. Robert Lee, and others, have satisfactorily illustrated this morbid condition. In the same volume of the *Transactions*, there is a paper *On Introsusception; and a Case of Paralysis of the Muscles of Deglutition, cured by an artificial mode of conveying Food and Medicines into the Stomach*. The former case he considers as capable of being produced either upwards or downwards: the former he terms retrograde; the latter, progressive. A minute attention to the structure of the intestines has enabled him to describe with great precision, the condition of parts in an introsusception; the latter paper gives an account of the mode of administering food and medicines, by means of a tube conveyed into the stomach, a practice now of daily occurrence; but, I believe, not attempted in the human subject before the time of John Hunter. This volume contains also a paper by Mr. Home, detailing John Hunter's *Operation for the Cure of Popliteal Aneurism*, which must be regarded as a very great improvement in the treatment of that disease. Prior to Mr. Hunter's time, the operation for aneurism was highly dangerous, for it consisted in nothing short of cutting into the sac, removing the coagula, and endeavouring to secure the bleeding extremities of the vessel, or in applying the actual cautery or compresses to suppress the hæmorrhage. Hunter was the first to apply a ligature on a sound part of the trunk of the aneurismal vessel, at a distance from the seat of the disease, and between it and the heart—in this way to annihilate the circulation of the blood through the ordinary channel. The simplicity and comparative safety of this mode of treatment, deservedly places Hunter's method as one of the greatest improvements in modern surgery. The first case in which he tied the femoral artery for a popliteal aneurism, was in December, 1785, at St. George's Hospital. The paper I have noticed, contains an account of this case. The practice thus established upon the femoral artery, in cases of popliteal aneurism, has led to its adoption in almost all the other arteries of the body; and the resources of nature in carrying on the circulation, even when the aorta has been tied, has been shown in the memoir of Sir A. P. Cooper, Bart.



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JOHN HUNTER

John Hunter

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In the *second* volume of the Transactions there is *The Case of a Young Woman who poisoned herself in the first month of her Pregnancy; and Experiments and Observations on the Growth of Bones*. The former of these presents an interesting account of the condition of the uterus and its appendages in a very early period of pregnancy; the latter is arranged by Mr. Home, from the manuscript of Mr. Hunter, and its object is to show that the growth of bones is not, as stated by Duhamel, by an extension of their parts; but by two processes going on at the same time, and assisting each other—the arteries bringing the supply to the bone for its increase, and the absorbents removing portions of the old bone, so as to give to the new its proper form. The experiments referred to are those principally derived from animals fed upon food having madder intermixed with it, by which a colour is given to the solid parts of the animal. If, therefore, an animal be fed upon this kind of aliment for a time—then upon food without the addition of the colouring matter—then again with that having madder, according to the process of increase which is perpetually going on in the living frame, we ought to have in distinct layers the deposition of bone, varying in appearance according to the food given. Such, indeed, are the effects observable in Mr. Hunter's experiments, the preparations illustrative of which are in the Hunterian Museum. But not to John Hunter is due the discovery of this condition, for I am informed by Sir A. Cooper, that Mr. Cline was in the habit of mentioning in his lectures, that Mr. Belchier, surgeon of Guy's Hospital, who died in 1785, at the age of seventy-nine, first ascertained the fact, and in an accidental manner, from dining with a wealthy patient, by trade a calico-printer. The bones of the pork exhibited at this repast had an unusually high colour, sufficient to attract the surgeon's attention, and to direct him to make inquiry as to the cause of it: the calico-printer observed that his pork always presented that appearance, and that he fed the animals in the yard attached to the dyeing-house—it was found that their food was frequently mixed with the madder employed in his business, and thus the redness was accounted for.

In 1786 Mr. Hunter was made Deputy Surgeon-General to the army, and in the same year he published his *Treatise on the Venereal Disease*. Much was expected by the profession from the author on this important subject, and he was exceedingly anxious that the work should appear in as correct a state as possible. It was therefore submitted to the revision of some of his medical friends, among whom I may mention Dr. Fordyce, Dr. David Pitcairn, Dr. Marshal, and Sir Gilbert Blane. Mr. Hunter contends for the specific nature of the disease, and the test of its character he founds upon the effect produced by the exhibition of mercury to stop its ravages. He held it to be necessarily and progressively destructive unless checked by mercury: this opinion has in later times been much questioned, and few in the present day are to be met with who will admit of its infallibility. From one extreme we are very prone to run into the opposite, and some modern

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practitioners have gone so far as to abandon the use of mercury altogether in the cure of this complaint. I am not an advocate of such practice, having seen too much of the ill effects arising from it; and I can venture to recommend Mr. Hunter's work as one, though not complete upon the subject, yet abounding with the most sagacious and valuable observations.

In the same year he also published *Observations on certain parts of the Animal Economy*, a second edition of which appeared in 1792. This volume contains several of his papers previously printed in the *Philosophical Transactions*, with important additions. This work may fairly be considered as one of the best of Mr. Hunter's productions. In it will be found, in addition to his amended papers laid before the Royal Society, his description of the vesiculæ seminales; his account of the descent of the testis; of the structure of the placenta;* some further observations on digestion; on a secretion in the crop of breeding pigeons for the nourishment of their young; on the colour of the pigmentum nigrum in different animals; the use of the oblique muscles; a description of the nerves which supply the organ of smelling; and a description of some branches of the fifth pair of nerves:—which altogether display his profound acquaintance with anatomy and physiology.

In this year he was again affected by severe illness, and was unable to attend to any of his professional labours. These frequent attacks must be attributed, in some measure, to his extraordinary application, for he was one of those alluded to by the poet,

“ Who not to sleep allow'd the needful time,
To whom repose was loss, and sport a crime.”

Mr. Thomas confirms this statement:

“ Upon my first arrival in London, (says he,) on presenting a letter of introduction from a mutual friend, he desired to see me at five the next morning! Having already the highest respect for his great professional talents, it may be easily imagined to what a height my curiosity was raised by so extraordinary an appointment: no one will doubt my punctuality of attendance. I found him in his museum, busily engaged in the dissection of insects. The interest which he seemed to take in his employment—the sagacity of his observations on it—the acuteness of his general remarks upon whatever subject was started—the almost blunt manner in which he questioned me respecting my medical education, united to the kindness of his admonitions relative to my future plans, made a very forcible impression on my mind: it was a mingled feeling of profound respect, surprise, and admiration.”

* The differences between William and John Hunter, which unfortunately continued to nearly the close of their lives, arose from a misunderstanding relative to the mode of connexion between the placenta and uterus, to the discovery of which both brothers laid claim. The letters relating to this subject in the archives of the Royal Society I have perused; but from these it is not possible to decide upon the merits of the question, though I must confess that my leaning is decidedly in favour of Dr. Hunter.

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He seldom slept beyond four hours in the night, but he took an hour after dinner.

From the period of this attack he could never be said to have again enjoyed perfect health: an affection of the heart, consequent upon every agitation of his mind, or considerable effort of body, ensued; and gave rise to the most serious apprehensions. Mr. Home now became his constant private assistant, and the governors of St. George's Hospital yielded to Mr. Hunter's solicitation, and appointed him Mr. Hunter's assistant-surgeon at the hospital. At the same time Mr. Keate was made assistant to Mr. Gunning. Mr. Home also relieved Mr. Hunter of the fatigue attending the delivery of his regular course of lectures, and Mr. Hunter devoted himself to the correction of his papers. He also engaged in collecting materials for an enlarged surgical course, but he did not live to carry his views into effect. Upon the decease of Mr. Adair, he received the appointment of Surgeon-General to the Army, and Inspector-General of Hospitals.

In 1790, Mr. Hunter contributed some important matter, as an appendix to a Journal of a Voyage to New South Wales, by John White, Esq., Surgeon-General to the colony. This consists of

1. *General Observations on the mode of collecting and sending home animals, and on the nomenclature and classification of animals.*—2. *Description of the Kangaroo.*—3. *Description of the Wha Tupoau Roo.*—4. *Description of the Dingo, or Wild Dog of Australia.*—5. *Description of the Tupoa Tufa, or Tapha.*—6. *Description of the Poto Roo, or Kangaroo Rat.*—7. *Description of the Hepoona Roo.*

Mr. Hunter also contributed some *Observations concerning the Anatomy of the Camel's Stomach, and some Notes on the Anatomy of the Jerboa*, to Dr. A. Russell's Natural History of Aleppo.

Sir. E. Home has recorded the particulars of Mr. Hunter's disease and death, many of which were derived from his own dictation. The account exhibits the history of a complete case of angina pectoris, or that affection which is frequently found to arise from an ossified condition of the coronary arteries of the heart. This had been long foreseen by his friends, and affections of the mind operated powerfully in hurrying on the fatal issue.

“ ——— Disease augmenting year by year,
Show'd the grim king by gradual steps brought near.”

Yet it was sudden—awfully sudden. On the 16th of October, 1793, he went to attend a Board at St. George's Hospital, and there being irritated by some circumstances, (the particulars of which may be found in Mr. Ottley's Life of John Hunter, p. 126,) he withdrew from the committee-room into an adjoining apartment, and, turning round towards one of the physicians, (Dr. Robertson,) he gave a deep groan, and dropt down dead. His existence thus terminated in the sixty-fifth year of his age. His claims to the

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regard and veneration of mankind, are unbounded. In his own particular department, there is not a branch that he has not improved, and his investigations have laid the basis of many glorious improvements, that have since been put forth and established. To estimate correctly that which is due to John Hunter, it is necessary to look back to the state of surgery in his time, and to contrast the practice of it with that of the present day. In no one point is greater evidence afforded of the progress of surgical science, than in the diminution of the performance of serious operations. Where one is now executed, twenty were then determined upon. No man felt more the opprobrium upon the art, in the necessity of operations, than John Hunter; he esteemed every one as a reproach upon the science, which had not reached sufficient perfection to work a cure, except by the removal of a part of the frame. "To perform an operation, (says he,) is to mutilate a patient we cannot cure; it should, therefore, be considered as an acknowledgment of the imperfection of our art." His views were directed to correct this necessity, and he endeavoured, by a contemplation of the various phenomena which distinguish living beings, so to direct the operations of nature, that reparation might be effected by a return to healthy action.

In the course of this memoir, I have had occasion to allude to Mr. Hunter's irascibility. He had no command over his temper, yet he was not wanting in sensibility or benevolence of heart. He was solicitous to advance the fortunes of his most meritorious pupils; he offered to Jenner to accompany Captain Cook upon his voyage of discovery, and he recommended Mr. Thomas as assistant-surgeon to Earl Macartney, Ambassador to China. His speech was rude, and he habituated himself to the disgusting practice of swearing, which, in his day, however, was not of uncommon occurrence. He was of temperate habits, particularly during the latter part of life, in which he drank no wine. This was, probably, necessary from attacks of gout, to which he was liable. In the acceptance of fees from his patients, he was very considerate, particularly towards professional men of all descriptions, and he has been known to return fees, where he found his patients in embarrassed circumstances. As an operator, he has been variously described. In the performance of these painful parts of a surgeon's duty, he appears to have been "slow and sure." His knowledge of anatomy would necessarily give security in these undertakings. His personal appearance has been thus described:

"He was about the middle stature, of a vigorous and robust frame, and free from corpulency; his shoulders were high, and his neck short. His features were rather large, and strongly marked; his eyebrow projecting, his eyes of a light colour, his cheeks high, and his mouth somewhat under-hung. In dress, he was plain and gentlemanlike; and his hair, which in youth was of a reddish yellow, and in his latter years white, he wore curled behind."

This will be seen to correspond very accurately with the portrait which accompanies this memoir. It was executed by Mr. Home, brother of Sir

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E. Home, and belongs to Mrs. Baillie, by whose very kind permission, I have been enabled to have it engraved. The favourite portrait of John Hunter is, unquestionably, that very fine work of art by Sir Joshua Reynolds, engraved by W. Sharp. This is in every way a *chef-d'œuvre*, and the original picture is very appropriately placed in the Council-room of the Royal College of Surgeons. I am happy to deviate from the order established for the portraits in this work, by adding to this memoir, an admirably reduced engraving from this celebrated picture.

John Hunter was buried in a very private manner, in the Church of St. Martin in the Fields, being followed to the grave by a few only of his medical friends. He married Miss Home in 1771, who is described as “an agreeable, clever, and handsome woman, a little of a *bas bleu*, and rather fond of gay society, a taste which occasionally interfered with her husband's more philosophic pursuits.” She was anxious, after his decease, to have erected a monument to her husband's memory in Westminster Abbey, but the fees demanded for the permission to place him in a reserved niche among the great geniuses of this country, were too great to admit of it, and the intention was given up. Whilst, however, the Hunterian museum shall remain, John Hunter requires no other monument.

At the time of Mr. Hunter's death, he had in the press his long-promised *Treatise on the Blood, Inflammation, and Gun-shot Wounds*. About one-third had been printed, and the completion of the whole devolved upon Sir. E. Home, who has prefixed to the work a biographical memoir of his renowned master. Less care has been bestowed upon this publication than any other of Mr. Hunter's works; and it is exceedingly to be regretted, for much of it is very obscure. The subjects treated of, are of the highest consequence in a physiological and surgical point of view; and the information contained in various parts, is of the most valuable kind. It gives the strongest proofs of Hunter's originality of thought, and patience of investigation, to which it would be difficult to find a parallel. Many of his peculiar doctrines, to which I have alluded in the memoirs of others, are contained in it; and altogether it may be said, that, however defective it may be as to composition, and however inaccurate as to printing, it is, nevertheless, a work without which no medical library can be considered complete. As opportunities will repeatedly offer to refer to this publication, I forbear to extend the present notice.

Sir Everard Home has regretted that Mr. Hunter was so tardy in giving his observations to the public, and has endeavoured to account for the delay by his turn for investigation, the extensive scale upon which he conducted his inquiries, by which he always found that something more was to be accomplished, and his great unwillingness that any thing from him should appear at all unfinished. It is, indeed, much to be lamented, that Mr. H. was thus scrupulous in committing to the press the results of his inquiries—it would have been not only for the interests of science that

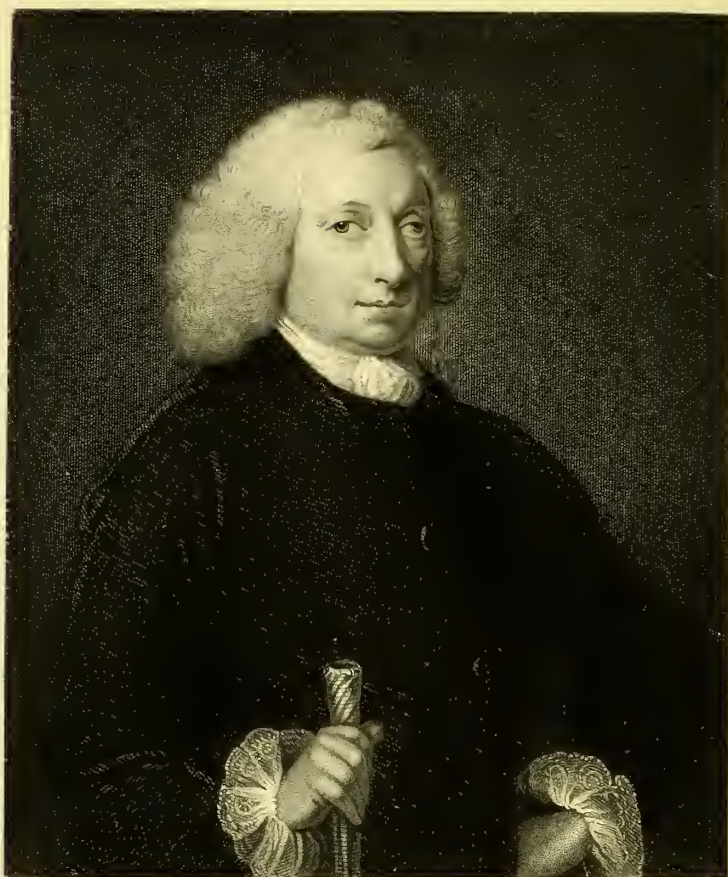
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he should have done so, but also for the character and fame of his biographer, whose conduct, in the destruction of his brother-in-law's papers, is truly indefensible. *Utinam falsò jactaretur*. Every line written by John Hunter, and bearing relation to his museum, was public property, and not subject to the control of any private individual. Justice compels the mention of this painful subject, the particulars of which were detailed in evidence before a committee of the House of Commons, by Mr. Clift, in 1834.

That Mr. Hunter should have been enrolled in the lists of the members of several foreign academies, may easily be surmised. I find that in 1781, he was made a Member of the Royal Society of Belles Lettres of Gottenburgh; in 1783, of the Royal Society of Medicine, and of the Royal Academy of Surgery, of Paris; in 1787, of the American Philosophical Society; and, in 1792, of the Royal College of Surgeons in Ireland; and of the Chirurgo-Physical Society of Edinburgh. He was one of the Vice-Presidents of the Veterinary College, upon its establishment in 1792.

The Hunterian museum has been frequently described. Catalogues are in the course of publication by the Royal College of Surgeons, of its various parts by Mr. Clift and Professor Owen, under the guidance of the trustees and the board of Curators, and will form an exceedingly valuable contribution to anatomical, physiological, and medical science, as well as to natural history in general. It is sufficient here to state, that the museum was purchased by the government, of Mr. Hunter's family, for the sum of £15,000, (though Mr. H., as he told Mr. Lynn, expended no less than £70,000 upon it,) and was presented to the Royal College of Surgeons upon certain conditions, namely, to preserve the collection at their own expense—to have it open to the Fellows of the Royal College of Physicians, to the Members of the Royal College of Surgeons, and to persons properly introduced—the preparation of a proper catalogue—officers to explain the collection—and an annual course of twenty-four lectures on comparative anatomy, to be illustrated by the collection. In 1806, a grant by government of £15,000 was made, to assist in the erection of a proper building for the museum, theatre, &c., and, in 1810, a further sum of £12,500.

I cannot close this brief memoir without referring the reader to an edition lately published of the Works of John Hunter, edited by Mr. J. F. Palmer. The writings of this distinguished physiologist have been most carefully rendered, and are illustrated by appropriate notes and references. No undue partiality is manifested for the opinions of Mr. Hunter, nor are his errors or defects attempted to be defended. In addition to the published works, this edition contains a full and collated copy of Mr. Hunter's Surgical and Croonian lectures.



HARUM
1756 Oct 30

JOHN HUXHAM, M.D. F.R.S.

“ Physicians are, some of them, so pleasing and conformable to the humour of the patient, as they press not the true cure of the disease ; and some other are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper ; or, if it may not be found in one man, combine two of either sort ; and forget not to call as well the best acquainted with your body, as the best reported of for his faculty.”

BACON.

THE subject of this memoir is one of the few physicians who has chosen nature for his guide, and, by attentive observation, viewed the various phenomena of disease, and treated it upon philosophical principles. It is exceedingly to be lamented that the materials for a biography of Dr. Huxham, are so scanty: his son published a supplementary volume to a work of his father's after his death, but has not favoured the world with the relation of any incidents or particulars connected with the life of a most experienced and talented physician.

DR. JOHN HUXHAM, we learn from Polwhele,* was the son of a butcher living at Halberton in Devonshire. Of his early education nothing is known ; but he is to be found in the list of students of the University of Leyden, so celebrated for its education of enlightened professors and practitioners of medicine. Here he graduated, and appears afterwards to have selected Plymouth as the seat of his practical labours. These must have been very extensive, for they obtained for him a very considerable fortune. The seat of his practice gave to him opportunities for making meteorological observations, and studying the influence of climate, seasons, &c., in the production of disease. This is a field in which there have been but few labourers, although its importance is universally acknowledged. The difficulties attending it, appear to have deterred most from pursuing this path of inquiry. To attentively observe the various atmospheric phenomena, the successive changes of weather and of seasons, requires the closest application, and nothing short of the most continued labour, can possibly be productive of satisfactory results. In attention to this subject, the ancients have unquestionably the advantage over the moderns. The father of medicine (Hippocrates) duly appreciated the importance of correctly

* History of Devonshire.

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noting the effects of atmospheric vicissitudes upon the human frame, and has left us a noble specimen of his talent, in his treatise on epidemic disorders. In his tract also *De Aere, Aquis et Locis*, he advises all physicians to examine into the particulars and condition of the situation, air, and the water used by the people dwelling in those places they are called to practise in. He seems to have been most fully impressed with the importance of these inquiries, and, at the same time, sensible of the difficulties necessarily experienced in their investigation. Dr. Huxham published, in two volumes, his *Observationes de Aere et Morbis Epidemicis*, and to these a supplementary volume was published by his son in 1771. The former volumes, (the first of which was inscribed to Sir Hans Sloane,) were published in 1739 and 1752, and embrace the particulars of a register kept from 1728 to 1748; the latter from 1749 to 1752. In 1759, a bad translation of the first volume appeared without Huxham's knowledge or approbation; and, in the succeeding year, another was put forth with the sanction of the author. In 1768, his son, J. Corham Huxham, A.M. F.R.S., published a translation of the second volume, from 1738 to 1748 inclusive.

Dr. Huxham was a Fellow of the Royal College of Physicians of Edinburgh, and also a Fellow of the Royal Society of London. He contributed for many years to the Philosophical Transactions. The following is a list of his papers printed in that collection, from the year 1723 to 1762.

- 1723. 1. Partium Genitalium in Muliere Structura præternaturalis.
- 1724. 2. Observationes duæ rariores. (On a very large Omentum, and Saliva of an unusual colour.)
- 3. A short account of the Anomalous Epidemic Small Pox, beginning at Plymouth, in August, 1724, and continuing to the month of June, 1725.
- 1726. 4. Account of an Aurora Borealis.
- 5. Casus Rarissimus. (On a large Stone in the Urethra.)
- 1730. 6. Case of Spina Bifida.
- 1732. 7. Epistola de Morbo Colico singulari.
- 1740. 8. On an Extraordinary Hernia Inguinalis. Postscript of an Observation of the Passage of Mercury over the Sun. October 31st, 1738.
- 1741. 9. On an Extraordinary Venereal Case.
- 1744. 10. A Letter concerning Polypi, (Coagula,) taken out of the Hearts of several Sailors, just arrived at Plymouth from the West Indies.
- 11. A Letter serving to accompany an account of the Case of one Hannah Hitchcock, one of whose Ureters was grown up; a Present of a beautiful Stalactites, now in the Museum of the Royal Society; and a Drawing of an Extraordinary Calculus, taken out of the Bladder of a Boy.
- 1748. 12. A Letter concerning a Child born with an Extraordinary Tumour near the Anus, containing some Rudiments of an Embryo in it.
- 1750. 13. On the Northern Lights.
- 1755. 14. Notices concerning a Body found in a Vault in the Church of Staverton.
- 15. Medical and Chemical Observations upon Antimony.
- 16. Of a man who swallowed Melted Lead.

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1758. 17. On the Extraordinary Heat of the Weather in July, 1757, and its effects.
1762. 18. Two Remarkable Cases in Surgery: (a Division of the Trachea, and the Effects of Lightning.)

Dr. Huxham also printed in the third volume of the Medical Observations and Inquiries, some *Remarks on Emphysematous Cases from Internal Causes*. These are appended to the *History of a Case of General Emphysema from a Fractured Rib, related by Mr. Leake, Surgeon to the Garrison at Plymouth*.

Huxham's chief work is, "*An Essay on Fevers*," which was published in 1739. Several editions of this work were demanded, and it appeared again in 1750, and in 1757, to which edition was appended a "*Dissertation on the Malignant Ulcerous Sore Throat*," a disease which at that time attracted great attention, and which dissertation had been separately printed in 1750. The work on fevers appeared again in 1764, 1767, 1769, and 1782. It has been translated into several languages, and there is an anecdote connected with this subject, and reported by Polwhele, which must not here be omitted. "The Queen of Portugal being ill of a fever, and being reduced to the last extremity, notwithstanding the efforts of the physicians of the country; his majesty, hearing of the eminence of a physician of the English factory at Lisbon, sent for him, and, giving him the particulars of the queen's disorder, inquired whether it was in his power to administer any assistance. The physician replied, that he was not without hope, but that he could do nothing unless her majesty was left to his sole care and direction. This being granted, the disorder soon took a turn, and in a short time the queen was restored to perfect health. The doctor being complimented by the king upon his abilities and success, said he had no claim but to the application; for that the merit was due to Dr. Huxham, an eminent physician of Plymouth, whose tract on the management of fevers he had implicitly followed. Upon which the king immediately procured the treatise, had it translated into the Portuguese language, printed it in handsome quarto, and sent it, richly bound, to Dr. Huxham, as an acknowledgment of the sense he entertained of his abilities, and of his debt of gratitude on the recovery of the queen."

In his work on Fevers, Huxham has assigned to the disease an inflammatory cause, in the greater number of cases, which approximates towards the opinions now pretty generally entertained upon this subject. There are, however, it must be admitted, few diseases upon which there exists among practitioners a greater variety of opinions as to many particulars, nor is a uniformity of opinion on such a subject likely to be readily entertained. It is not yet satisfactorily ascertained whether the disease primarily exists in the fluid or the solid parts of the body. The attention, however, now paid to the structure and functions of the animal frame have destroyed the speculative opinions of the ancients, and will place the

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information possessed upon this subject on its proper foundation. The researches of Clutterbuck, Broussais, and others, are entitled to great commendation, and will be more particularly noticed in other memoirs. The object in introducing the subject here is to do justice to the discernment and acuteness of Huxham, whose researches must ever command our respect; and although the humoral pathology, the prevailing doctrine of his day, tinctures his writings, it will readily be perceived that he was no blind devotee to the opinions or theories of his age; but dared to look into doctrines, and observe for himself, as free from prejudice as most of us can possibly expect to be.

In 1752, Huxham published an Essay upon the Epidemic Colic of Devonshire, (*De Morbo Colico Danmoniensi*.) which was translated into German in 1784.

In 1756 he put forth some *Observations on Antimony*, and formerly a preparation of this substance bore his name, and was sold as Huxham's Antimonial Wine. His mode of preparing the tincture of bark is still pursued, and well known in the shops of our chemists and apothecaries. He corrected the bitter of the bark by the addition of aromatics. The formula is to be found in the Essay on Fevers, and it has been introduced into the London Pharmacopœia.

In 1766 a treatise *De Scorbuto* was published at Venice. This is the substance of an appendix attached to the second edition of the work on Fevers, entitled *A Method for Preserving the Health of Seamen in Long Cruises and Voyages*. This proposal first appeared in the General Evening Post in October, 1747, and also in the Gentleman's Magazine for the same month. It was adopted with great advantage.

Huxham died in 1768. His writings show that he was a man of learning, and well acquainted with the works of the ancients. He entertained great admiration of the writings of Hippocrates, and in the preface to his work on Fevers declares, that, although he will not take upon him to say that a person cannot be a good physician without consulting that great oracle of physic and reading the ancients, yet that he will make a much better physician for so doing; and, he adds, that few, if any, ever made any considerable figure in their profession who had not studied them. He seems to have considered the advice of Horace in regard to poetry equally applicable to physic:

“ Vos exemplaria Græca
Nocturna versate manu, versate diurna.”

His works have been collected together, and published at Leipsic in 1764, in 2 vols. 8vo., edited by Geo. Chr. Reychel, under the title of *Opera Physico-Medica*. His Portrait by Rennell, from which that accompanying this Memoir is taken, is placed among the “Worthies” of the Royal Society, and appears in the meeting-room of the Fellows. I beg here to offer my thanks to the council for the permission granted me to engrave it.



Edw. Sumner

EDWARD JENNER, M.D.

L L. D. F. R. S.

Æc. Æc. Æc.

“ And he stood between the dead and the living ; and the plague was stayed.”—NUMBERS xvi. 48.

EDWARD JENNER was born on the 17th of May, 1749. He was a native of Berkeley in Gloucestershire. His father was the vicar of this place, and his mother was descended from an ancient family in Berkshire. In early life, Jenner was deprived of his father, and the direction of his education devolved upon an elder brother, the Rev. Stephen Jenner. He attained a respectable proficiency in the classics, and his taste for natural history manifested an early developement ; for, at the age of nine, he had made a collection of the nests of the dormouse, and he employed the hours usually devoted by boys to play, in searching for fossils in the neighbourhood.

“ No childish play to him was pleasing.”

Intended for the medical profession, Jenner was apprenticed to Mr. Daniel Ludlow, of Sodbury near Bristol, to acquire a knowledge of surgery and pharmacy ; and, after the period of his apprenticeship had expired, in 1770, he went to London to complete his professional studies, and was a student at St. George's Hospital, and a resident, for two years, in the family of the celebrated John Hunter. The similarity of their tastes and spirit of research will not render it a matter of surprise that he should become a most favourite pupil. That this was the case in an eminent degree, the correspondence which was maintained between these two great physiologists sufficiently prove. “ There was in both a directness and plainness of conduct, an unquestionable desire of knowledge, and a congenial love of truth.”*

* Baron's Life of Jenner, Vol. I. p. 5.

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Jenner was remarkable for the neatness and precision with which he made preparations of anatomy and natural history. His dissection of tender and delicate organs, his success in minute injections, and the taste he displayed in their arrangement, is said to have been almost unrivalled. Mr. Hunter recommended him to Sir Joseph Banks, to prepare and arrange the various specimens brought home by the celebrated circumnavigator, Captain Cook, in his first voyage of discovery in 1771, and he was solicited to become the naturalist of the succeeding expedition in the year following; but Jenner's partiality to his native soil, and his desire of settling in the place of his birth, were too strong to admit of his being allured into such an appointment. He preferred the seclusion of a country village; and to this selection do we owe one of the greatest blessings ever bestowed upon mankind. It is not unreasonable to suppose, that the subject by which he should afterwards be known to the whole civilized world, dwelt upon his mind with considerable force even at this early period, for the prophylactic powers of the cow-pock were known, or rather rumoured of, in a few districts, and the subject had been mentioned by Jenner to Hunter and others, though he had not been successful in directing their attention sufficiently to the importance of it. Indeed, he pressed this subject so much upon his professional brethren, that, at a medical club at Redborough, to which he belonged, he was threatened to be expelled if he persisted in harassing them with a proposition which they then conceived had no foundation but in popular and idle rumour, and which had become so entirely distasteful to them. It remained, therefore, to Jenner to pursue the inquiry, and to place the whole matter upon a proper physiological basis, by which it might be rendered permanently beneficial. This inquiry was perfected amidst the labours and anxious toils attendant on the life of "a country surgeon," with few books to consult, and little leisure to devote to their perusal. Observation necessarily supplied the place of literary research—the book of nature was open to his view, and it was one he was well calculated to comprehend—it surpassed all others, and its contemplation amply repaid the student.

Of all classes of men with whom it has been the fortune of the writer of this sketch to associate, there are none, in his opinion, so generally and so truly amiable as the *naturalists*. The contemplation of nature seldom fails to produce an elevation of character; it also begets a sweetness of disposition flowing from a sense of what is beautiful in creation; and the evidences of beneficence, everywhere so abundant, soften the feelings, and impart to the individual a sincere benevolence of heart. This disposition was strikingly manifested in Jenner, to whose affection, kindness, meekness,

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goodwill, and benevolence, so many have borne the most ample testimony. It was no uncommon thing for Jenner to be accompanied in his daily professional tour of many miles by friends, who have eagerly listened to the outpourings of his mind, called forth by the beauties which in the vale of Gloucester surrounded him. His observations on the structure and economy of the various objects of natural history were delivered with the most captivating simplicity and ingenuity. Full of information himself, he delighted to impart it, and was equally solicitous of obtaining a return from others—he was an enthusiast in his devotion to nature, and he anxiously desired that all should participate in the gratification which such a study never failed to afford. He united in an especial manner a talent for the most profound observation, to a disposition most lively and ardent, distinguished by mirth, playfulness, and wit. With these powers, it is not surprising that his society should have been much courted; and, fully engaged as he was by the duties of an extensive practice, he yet found time to cultivate an acquaintance with polite literature. Many little productions of his muse have appeared in print: they were addressed to some of his more favoured correspondents, or occasionally read at convivial meetings,* and display the turn of his mind, the benevolence of his disposition, and the liveliness of his imagination.† His best poetical productions find their subjects in natural history. “The Signs of Rain,” unite the accuracy of the naturalist with the fancy of the poet.

Jenner made many experiments for Jolin Hunter, to illustrate his papers published in the “Observations on some parts of the Animal Economy.” Hunter’s letters to Jenner make constant allusion to his labours.

“I shall be glad of your observations on the cuckoo, and upon the breeding of toads: be as particular as you possibly can. If you can pick me up any thing that is curious, and prepare it for me, do it, either in the flesh or fish way.” Again; “I received yours, as also the cuckoo’s stomach. I should like to have a few more of them, for I find they do not all show the same thing. If possible, I wish you would remove the cuckoo’s egg into another bird’s nest, and tame the young one, to see what note it has. There is employment for you, young man!‡ If you collect eggs, you should

* He was a member of a catch-club. He had a taste for music, and occasionally performed upon the violin and the flute. He had an abhorrence of cards.

† The following lines addressed to a lady upon the recovery of her daughter, and sent with a pair of ducks, afford a fair specimen of his facetious vein:

“I’ve despatch’d, my dear madam, this scrap of a letter,
To say that Miss ***** is very much better;
A regular doctor no longer she lacks,
And, therefore, I’ve sent her a couple of *quacks*.”

‡ The natural history of the cuckoo was but ill understood, until Jenner turned his attention to it. His paper in the Philosophical Transactions for 1788, supplies a

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also collect the nests; and I do not care how many you send. I wanted a crow's nest, as also a magpie's, in the branches of the tree where they are built; but I am afraid it is now too late." "See if you can catch the number of pulsations, and the frequency of breathing, in the bat, without torture. If the frost is hard, see what vegetables freeze; bore holes in large trees, and see whether the sap runs out, which will show it is not frozen."

These instances must suffice. Hunter wished Jenner to unite with him in establishing a school to teach natural history, human and comparative anatomy, the labour of which he found to be beyond the ability of any one man—even a HUNTER. The torpidity of animals exercised the minds of these physiologists, and they made numerous experiments to ascertain the nature of the phænomena attending this singularly curious condition. Mr. Hunter's papers give the results of these investigations. Dr. Jenner possessed not only the proper spirit of inquiry, which should characterise every physiologist and pathologist; but he endeavoured to excite it in others. Thus we find him instrumental in the establishment of societies of professional men in his neighbourhood, meeting together for the common purpose of advancing their knowledge of subjects connected with their professional pursuits, and of promoting social intercourse, and good-will among themselves. Two societies of this description, one of which was called the "Medico-Convivial," and the other, the "Convivio-Medical," having for their members Drs. Parry, Hicks, Ludlow, and others, were established. At one of these meetings, a paper by Jenner was read upon the obscure disease known by the name of *angina pectoris*. He appears to have been the first to suggest its chief pathological distinction in the ossification of the coronary arteries. His acumen in detecting the nature of John Hunter's disease, is creditable to his character as a pathologist, and he but too truly foretold the condition of parts, which in so sudden a manner deprived the world of, perhaps, the greatest physiologist that ever lived. Jenner also read a paper on a disease of the heart occurring in persons subject to *rheumatic* attacks, leading to the enlargement and disorganization of that vital organ. Subsequent inquiries have detected the connexion of these conditions; but Jenner's claim to the dis-

desideratum in natural history; and the manner in which he accounts for the singular perversion of maternal instinct in this bird, in neither building a nest, hatching its young, nor rearing them afterwards, is very ingenious and satisfactory. Soon after the publication of this paper, Jenner was elected a Fellow of the Royal Society. Another subject of ornithology, not less interesting, occupied his attention, the Migration of Birds. A paper on this subject was read at the Royal Society, Nov. 27, 1823, and printed in the Philosophical Transactions for 1824. Dr. Baron has given a very interesting extract in his biography of Jenner, vol. ii. p. 278.

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covery cannot be maintained, since his paper having fallen into the hands of some of the members of the club, was lost, and has not been recovered. He wrote also a treatise on *Ophthalmia*, which has not been published.

Jenner directed his attention to improve the mode of preparing *tar-tarized antimony*, a medicine of great importance in the practice of physic. Jenner also made inquiries into the nature of *hydatids*, and the condition of the *lymphatic system*, in health and in disease. His views upon this subject were published in 1819 and 1822, by Dr. Baron, in two works, on the Origin of Tubercles, and an Inquiry into the Nature of Tuberculous Diseases.

Jenner's practice had increased to such an extent, that he was desirous of abridging his labours, and, in 1792, he obtained from the University of St. Andrew's a diploma, granting to him a degree of Doctor of Physic.

To trace the order of events, and to analyze all the circumstances connected with the history of vaccination, cannot fail to excite the deepest interest. To do any thing like justice to this subject, within a compass consistent with the design of this publication, is impossible; the sources whence such information may be obtained, can be pointed out, but they cannot be pursued. To Dr. Baron, Dr. Jenner's executors intrusted all his papers and correspondence, with a view to the composition of his biography by one well acquainted with the opinions, feelings, and character of Jenner, as a man, a physician, and a naturalist. Dr. B.'s veneration for the object of his biographical labours, manifests itself in every page of his work, which does not fail to give the reader a fair statement of the history of one of the greatest benefactors of the human race. The history of vaccination forms one of the most interesting physical topics that can engage the mind of man; and every particular relating to it, is full of interest. Dr. Baron has traced with great precision, and with equal truth, the progress of Jenner's mind in this inquiry, and in this narration has necessarily made us acquainted with his great love of natural history, and the vast acquirements he possessed by his researches into nature. Jenner had nearly passed half a century before he made known to the world his experiments and investigations relative to the vaccine disease. His first successful vaccination was made May 14th, 1796. His ardour from an early period has been noticed, and it took its rise from the following accidental circumstance. Whilst a pupil with Mr. Ludlow, a young country-woman applied for advice. The subject of small-pox was mentioned; upon which she observed, "I cannot take that disease, for I

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have had the cow-pock.”* This was sufficient to excite the attention of Jenner, and the incident never escaped his recollection. It is easier to conceive than to express the emotions which would naturally spring up from reflection on such a subject; his benevolent feelings were at once aroused to full activity—he pictured to himself all the horrors of that pestilential and most loathsome disease, disfiguring nature’s greatest work, slaying thousands upon thousands, and he was yet sufficiently young to recollect the severity of discipline to which he had himself submitted, in the process preparatory to the practice of inoculation, which, to use his own words, in that day were no less than that of “bleeding till the blood was thin; purging till the body was wasted to a skeleton; and starving on vegetable diet to keep it so.”

The patience manifested by Jenner in the prosecution of his inquiry into the cow-pock, the scrutiny to which he subjected every appearance that presented itself, and the fortitude with which he withstood every untoward circumstance, are entitled to all praise, and show forth his great capabilities for conducting a philosophical investigation. He divested the subject of all its difficulties and obscurities, and gave to “vague, inapplicable, and useless rumour the certainty and precision of scientific knowledge.” The extent of his anticipations upon this truly momentous subject do not appear to have been fully stated until 1780, ten years subsequent to his mention of it to John Hunter. He then confidentially disclosed to his intimate friend Edward Gardner (who gave evidence upon the subject before the committee of the House of Commons) the opinions he entertained upon the natural history of the cow-pock; dated its origin from the diseased heel of the horse; alluded to the different diseases with which the hands of the milkers became affected from handling the infected cows; distinguished that which was calculated to afford security against the small-pox; and divulged the hope he entertained of being able finally to eradicate that disease from the face of the globe. Dr. Baron has recorded the remarkable words with which this important communication was made.

“I have entrusted a most important matter to you, which I firmly believe will prove of essential benefit to the human race. I know you, and should not wish what I have stated to be brought into conversation; for, should any thing untoward turn up in my experiments, I should be made, particularly by my medical brethren, the subject of ridicule—for I am the mark they all shoot at.”

* From this anecdote, the title of *discoverer* of vaccination may, perhaps, be considered as inapplicable to Jenner; and in the course of this memoir, it is used with reference to the development of the various phenomena of the disease, and the laws by which they are governed.

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Jenner's reasons for concealment did not arise from any selfish or unworthy motive—the publicity he had always given to the subject, and the efforts he had made among his professional associates to pursue the inquiry, excludes the possibility of entertaining such a suspicion—no, it arose from a dread of disappointment and the fear of failure, should the matter be brought forward in a state other than that of a maturity sufficient to carry conviction immediately upon its promulgation. In the course of his researches, he was led to conclude that swine-pock, as well as cow-pock, was only a variety of small-pox. He inoculated his eldest son with the matter of swine-pock, and produced a disease similar to a very mild small-pox. After this, the inoculation of variolous matter would produce no effect. He ascertained that cow-pock (as it was commonly termed by the milkers) would frequently fail in effecting a security against the small-pox. This led him to inquire more particularly into the variety of spontaneous eruptions to which the teats of the cow were liable, and to discriminate the different kinds of sores produced by them on the hands of the milkers, and to establish the characters of those which possessed a specific power over the constitution, and those which had no such efficacy. He found that instances occurred in which the true cow-pock failed in preventing small-pox; but, nothing daunted by this apparently fatal discovery, he set about ascertaining the causes of this deviation. He found the specific virtues of the virus to have been lost or deteriorated, so that it was rendered capable only of producing a local affection, and had no influence whatever upon the constitution; and, by the greatest ingenuity, and patience of observation of the analogies drawn from the virus of small-pox, aided by his knowledge of the laws of the animal economy, he discovered that it was only in a certain state of the vesicle that the virus was capable of affording its protecting agency, and that, when taken under other conditions, or at other periods, it could produce a local disease, yet that it was not able to manifest any constitutional effect, or afford security to the invasions of the small-pox.

On the 14th of May, 1796, Jenner inserted lymph taken from the hand of Sarah Nelmes, who was infected with cow-pock, into the arms of James Phipps, a healthy boy about eight years of age. This is the first instance of regular inoculation of the vaccine disease by Jenner. The boy went through the disorder, and on the 1st of July following he had the matter of small-pox introduced into his arms, but no effect followed. Jenner had not before witnessed the cow-pock but as presented on the hands of the milkers, nor had it been transmitted from one human being to another. He was struck with its great resemblance to the small-pox pustule. The

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success of this case must necessarily have operated powerfully upon Jenner, and have urged him to continue the research with increased energy. His anticipations thus realized! his intentions accomplished! what must have been the feelings of such a man as Jenner? They were suited to the magnitude of the occasion; and mark the character of the philosopher, distinguished as it ever was by great simplicity, benevolence, and humility. "While (says he) the vaccine discovery was progressive, the joy I felt at the prospect before me of being the instrument destined to take away from the world one of its greatest calamities, blended with the fond hope of enjoying independence and domestic peace and happiness, was often so excessive, that, in pursuing my favourite subject among the meadows, I have sometimes found myself in a kind of reverie. It is pleasant to me to recollect that these reflections always ended in devout acknowledgments to that Being from whom this and all other mercies flow." Lord Bacon has said, that "it is heaven upon earth, to have a man's mind move in charity, rest in providence, and turn upon the poles of truth." Jenner is a striking illustration of the truth of this remark.

The modesty of Jenner was evidenced in his original intention of submitting his observations on the cow-pock, in a paper addressed to the Royal Society. Dr. Baron tells us, that "when the subject was laid before the president, (the late Sir J. Banks,) Jenner was given to understand, that he should be cautious and prudent; that he had already gained some credit by his communications to the Royal Society, and ought not to risk his reputation by presenting to the learned body any thing which appeared so much at variance with established knowledge, and withal so incredible. It came forth most unostentatiously, about the end of June, 1798, dedicated to his friend Dr. Parry of Bath. Dr. Jenner visited London in the month of April in this year, and remained until the 14th of July. His object in this visit was, to demonstrate the disease to his professional friends; but such was the distrust, or apathy, felt on the occasion, that Jenner absolutely returned to the country, without having been able to prevail on any one individual to submit to the inoculation of the virus! The fact is inconceivable. Thank heaven, the spirit of medical inquiry, at the present day, is of a different character. The virus Jenner brought to London was consigned to the care of the late Mr. Cline, of St. Thomas's Hospital. This celebrated surgeon inserted some of it by two punctures, into the hip of a patient labouring under a disease of that part of the body. This must be regarded as a clandestine mode of proceeding, for it was adopted under the idea of exciting a counter-irritation to the diseased part. The intention was to convert the vesicles into an issue, after the progress of the

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cow-pock had been observed. This idea was, however, abandoned. Small-pox matter was afterwards inserted into this child in three places, it produced a slight inflammation on the third day, and then subsided. The child was effectually screened against the disease. Mr. Cline now became very sanguine as to the result, and he inoculated three children with lymph taken from the vesicles of the child, but no effect ensued. The time of taking the lymph has not been stated. The subject now began to excite the attention of the profession, and all were eager to put the matter to the test of experiment. Mr. Cline urged Dr. Jenner to settle in London. He promised him £10,000 *per ann.* as the result of his practice. What was his reply?

“ Shall I, who even in the morning of my days sought the lowly and sequestered paths of life, the valley, and not the mountain; shall I, now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? My fortune, with what flows in from my profession, is sufficient to gratify my wishes; indeed, so limited is my ambition, and that of my nearest connexions, that were I precluded from future practice, I should be enabled to obtain all I want. And as for fame, what is it? a gilded butt, for ever pierced with the arrows of malignancy. The name of John Hunter stamps this observation with the signature of truth.”

That a discovery of such importance to mankind, once divulged, should bring forth many claimants, and that its author should be subjected to virulent attacks, is easy to be conceived. Jenner, however, never thought it necessary to reply to unfounded and harsh aspersions, satisfied in the strength of his own case, and feeling the justice and truth of his own claims and position. The biographer of Jenner has told us that his nature was “ mild, unobtrusive, unambitious; and many who have done justice to his discovery, have still to learn how beautifully the singleness of his heart, and his genuine modesty, graced and adorned that splendid reputation, which the wonderful consequences of his labours had acquired for him. In every private affair, in every public transaction, one principle guided him. The purity of his motives, and the disinterestedness of his actions, have, by no means, yet been duly acknowledged. Had those who opposed him and vaccination known how little of selfishness, of vanity, or of pride, entered into his character, they would, I am persuaded, deeply lament the wounds which they inflicted; and in the place of bitterness and reproach, would have found cause for unmixed esteem and approbation.”

The practice being now established, it is unnecessary even to refer to the names of the opponents of vaccination. Many mistakes, and some of a serious nature, occurred to interrupt the progress of the discovery; these

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had been for the most part foreseen by Jenner, and were satisfactorily explained. His opinions for the information of the non-professional reader may, perhaps, be briefly stated thus: That he considered small-pox and cow-pock as modifications of the same distemper; that by the employment of the latter, we give the disease in its mildest form, instead of propagating it in a virulent and contagious form; that the origin of both is to be found in "the grease" of the horse's heel; and, that by the insertion of lymph from the vesicle produced by this disorder, (having undergone certain modifications in its transit through the cow,*) it excites in the human constitution a similar influence, and renders the individual, so inoculated, proof against the attacks of the small-pox. The identity of the origin of the two diseases, appears now to be well established, and some late experiments, made at Bremen, have not excited the attention, in this country, to which they are entitled.† In a letter to a friend, Jenner says, "I will just drop a hint: the vaccine disease, in my opinion, is not a preventive of the small-pox, but the small-pox itself; that is to say, the horrible form under which the disease appears in its contagious state is (as I conceive) a malignant variety." Again: "What I have said on this vaccine subject, is true. If properly conducted, it secures the constitution as much as variolous inoculation possibly can. It is the small-pox in a purer form than that which has been current among us for twelve centuries past." And, in a letter to Mr. Pruen, "I have ever considered the variolous and the vaccine radically and essentially the same. As the inoculation of the former has been known to fail in instances so numerous, it would be very extraordinary if the latter should always be exempt from failure. It would tend to invalidate my early doctrine on this point."

It is not necessary here to dwell upon the fatality of the small-pox when taken in the natural way, or to show that the mortality has been increased by the practice of inoculation, which creates an atmosphere for

* This has been since ascertained to be unnecessary.

† The experiments here referred to, to prove the identity of the small and cow-pock, were made by Dr. Sonderland, and are inserted in the *Journal des Praktischen Heilkunde*, for January 1831. He has shown that by covering the cow with a blanket removed from the bed of a patient suffering under small-pox, the disease may be produced in the animal, and the udder becomes covered with vesicles. The lymph contained in these resembles that of the cow-pock, and, if introduced into the human species, will produce the disease. This method of obtaining a fresh supply of lymph, a matter of considerable importance, certainly merits attention; and it is surprising that it has not been attempted in this country. Dr. S. seems to think that cow-pock has arisen, in all instances, from the animal being brought into contact with persons labouring under small-pox, and does not derive its origin from the grease of the horse, as generally conceived.

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the constant propagation of the disease; these have been satisfactorily demonstrated in evidence before the House of Commons, and any one may readily obtain this information. It is, however, interesting to record the names of those who, abandoning all prejudice, and solicitous to promote a general good, submitted to the practice at its earliest period. Mr. Henry Hicks was the first to submit his own children to the vaccination. Lady Frances Morton (Lady Ducie) was the first personage of rank who had her child, and her only child, vaccinated. The Countess of Berkeley was very instrumental in forwarding it; and the children of his late majesty, William IV., were vaccinated by Mr. Knight. That prejudices should still exist, and in this country too, against the practice, is most unaccountable. In the States, where legislative enactments have been issued to enforce it, the small-pox has been exterminated; yet a disease which is more destructive of life than even the plague itself, is still suffered to appear on the face of the earth!

Dr. Jenner's discovery entailed upon him a most extensive correspondence,* and obliged him frequently to travel to London. His professional engagements were not only interrupted, but almost annihilated, and his private fortune encroached upon by such circumstances. His friends urged an application to parliament; and who so deserving of attention, as the discoverer of a practice so salutary as vaccination, by which millions of lives have been saved? He had promulgated his views; he had withheld nothing from his profession or the public; in short, he had sacrificed all private benefits for the advantage of mankind. A petition to parliament was presented on the 17th of March, 1802, and Mr. Addington (now Lord Sidmouth,) informed the house, that he had taken the king's pleasure on the contents of the petition, and that his majesty recommended it strongly to the consideration of parliament. A committee was appointed, of which Admiral Berkeley was the chairman. A great mass of evidence was brought forward, and many professional and other persons examined. The Duke of Clarence gave his testimony, and manifested strongly his conviction of the prophylactic powers of the vaccine disease. Much opposition was offered to the claims of Jenner. He felt this deeply, and in a letter to his friend Mr. Hicks, dated April 28th, 1802, he writes: "I sometimes wish this business had never been brought forward. It makes me feel indignant to reflect that one, who has, through a most painful and laborious investigation, brought to light a subject that will add to the happiness of every human being in the world, should appear among his coun-

* He facetiously termed himself "Vaccine Clerk to the World."

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trymen as a supplicant for the means of obtaining a few comforts for himself and family." The committee reported, and the house voted £10,000 to Dr. Jenner. An amendment, proposing £20,000, was lost by a majority of three! Sir Gilbert Blane, Dr. Lettsom, and others, feeling the utter inadequacy of this reward to the merits of the case, proposed to raise a fund by public subscription; but it was not carried into effect.

The Royal Jennerian Society was established in 1803, and had the king for the patron, the queen for the patroness, and various members of the royal family and nobility for its supporters. The design of the institution was to vaccinate the poor gratuitously, and supply virus to all parts of the world. It effected great good, and reduced the number of deaths by small-pox, in a very remarkable degree. But dissensions sprung up chiefly through the conduct of the resident inoculator, recommending practices contrary to the printed regulations of the Society, and it was virtually dissolved in 1806.

Lord Henry Petty (now Marquis of Lansdowne) was the Chancellor of the Exchequer in 1806, and on the 2d of July he brought the subject of vaccination again before the house of parliament. Upon this, the College of Physicians was directed to make inquiry into its state and condition, and a report was made on the 19th of April, 1807. The report was highly satisfactory as to the advantages of the practice. On the 29th of July, the Right Hon. Spencer Perceval, being then Chancellor of the Exchequer, called the attention of the house to it, and moved an additional grant of £10,000, when an amendment to double the sum was proposed by Mr. Edward Morris, M.P. for Newport, in Cornwall, and carried by a majority of thirteen.

In 1808, the National Vaccine Establishment was formed, where the practice of vaccination and the supply of lymph have ever since been continued.*

From the sketch thus given of this illustrious character, the activity of his mind, the profundity of his views, and the benevolence of his heart, will be rendered evident. Of the latter, Dr. Lettsom, in an oration delivered before the Medical Society of London, March 8, 1804, has given many examples which do honour to human nature. Void of ostentation, and of great simplicity of manners, he never courted popularity, or sought distinction. The approbation of the highest and the most intellectual ranks afforded him gratification, but did not beget pride. One great object occu-

* The history of this establishment, and the disregard shown to Dr. Jenner's wishes upon the subject, will be found fully detailed by Dr. Baron, (Vol. ii. chap. iv.)

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pied his mind, and every thing yielded to its accomplishment: that effected, his natural disposition immediately manifested itself—he returned to the country, and courted retirement, there to exercise what Cowper has so beautifully described as

“ Delightful industry enjoyed at home,
And nature in her cultivated trim
Dressed to his taste.”

His marriage in 1788 with Miss Catherine Kingscote, sister of the present Colonel Kingscote, a lady described as elegant in her manners, accomplished in her mind, and possessed of an understanding of great vigour, afforded to Jenner lasting delight and happiness, and gave to him two sons and a daughter. Occasional extracts from his journal, given by Dr. Baron, set forth Jenner’s domestic character in the most amiable light, and show that he was a just and a good man. Such a man ought to have been ennobled—he has conferred immortality upon himself; he has literally “*stayed the plague*.”

Jenner had two narrow escapes from death; one in 1786, from exposure to intense cold, of the effects of which he has given an interesting account;* and in 1794, from an attack of typhus fever, which he has also detailed.†

Foreign academies and societies enrolled him in the lists of their associates, and the medical societies of his own country were not less anxious to adorn their transactions with his name. In 1808 he was elected a corresponding member of the National Institute, and in 1811 he was chosen an associate, in the room of Dr. Maskelyne, deceased. The empress dowager of Russia sent to him a diamond ring, accompanied by a letter in testimony of her admiration of vaccination. She had the first child vaccinated in Russia named “Vaccinoff,” and fixed a pension upon it for life. The Medical Society of London presented him with a gold medal; the Physical Society of Guy’s instituted a new order of members, under the title of Honorary Associates, and named Jenner for the first; the nobility and gentry of Gloucestershire presented him with an elegant gold cup; and various other marks of consideration were bestowed upon him as testimonies to the benefits he had conferred upon mankind. He was chosen mayor of his native town; received the freedom of the corporation of Dublin; the freedom of the city of Edinburgh; and elected an honorary fellow of the Royal College of Physicians of that city. In 1813, the University of

* Baron’s Life, Vol. I. p. 72.

† Ibid. p. 196.

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Oxford granted him a degree of Doctor in Physic, by a decree of the convocation. The diploma was presented by Sir C. Pegge and Dr. Kidd, the professors of anatomy and chemistry. On this occasion, (and a similar honour had not been conferred by the university on any man for nearly seventy years before,) Dr. Jenner observed, "It is remarkable, that I should have been the only one of a long line of ancestors and relations who was not educated at Oxford. They were determined to turn me into the meadows, instead of allowing me to flourish in the groves of Academus. It is better, perhaps, as it is, especially as I have arrived at your highest honours, without complying with your ordinary rules of discipline." The conduct of the London College of Physicians, it is painful to remark, was not characterised by such liberality. The majority of the Fellows refused to admit him without the usual examination. Many of the Fellows were anxious upon the subject, but their wishes did not prevail.

The Commander-in-chief of the Army, (H. R. H. the Duke of York,) upon the recommendation of the Army Medical Board and the Lords of the Admiralty, recommended the adoption of vaccination in our army and navy, and the naval physicians and surgeons presented a gold medal to Jenner for his discovery. The practice extended itself throughout France, Germany, Italy, Spain, Russia, and the United States. In the East, it overcame even the scruples of the Hindoo and the Chinese. The writer of this memoir, by the kindness of Sir George Staunton, is in possession of a treatise on vaccination, drawn up by Mr. Pearson, and translated by Sir George into the Chinese language. It was of exceeding use in encouraging the natives to the adoption of the salutary practice. The King of Prussia submitted his own children to vaccination. He was the first crowned head to do so. Jenner had interviews with the grand Duchess of Oldenburgh, in this country, in 1814; also with the Emperor of Russia and the King of Prussia.

The following circumstance must not be omitted; it is a homage at the shrine of science and philosophy rarely to be met with.—Upon the breaking out of the war with France, among others who were detained in that country was Dr. Wickham, one of the travelling Fellows of the University of Oxford. Dr. Jenner was solicited to use his interference to procure his release. He addressed a petition to Napoleon for his liberation;—the animosity of Bonaparte to this country was then at its height. The petition was presented to him when in his carriage, changing horses. "Away, away," exclaimed the emperor. "But do you see," said Josephine, who accompanied him; "do you see from whom this comes—*Jenner*?" The tone of his voice was immediately softened. "What that man asks, must not be

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refused:" and the prayer of the petition was granted. Dr. Jenner succeeded also in obtaining the liberation of other individuals,—Mr. Williams, Mr. (now Lieut.-Col.) Gold, Mr. Garland, a son of Sir John Sinclair, &c. His influence with foreign nations exceeded that possessed by him in his native country—a passport from Jenner was certain of attention and respect. The spirit of enterprise in the cause of vaccination was greater abroad than at home, and the correspondence printed in the second volume of Dr. Baron's excellent biography affords abundant testimony of the pain which this supineness produced. It will scarcely be credited, that the practice of variolous inoculation was continued at the Small-Pox Hospital to so late a period as June 30th, 1822! What serious mischief must have ensued from such conduct.

On September 13th, 1815, he lost Mrs. Jenner; he retired to Berkeley, and may be said, after that period, to have resided in retirement. A fit of apoplexy attacked him August 6th, 1820, but left no paralysis; he recovered, but his existence was terminated on the 26th of January, 1823, in the 74th year of his age, by another fit. He was buried on the 3d of February, in the chancel of the parish church of Berkeley, and a large concourse of people were present on the occasion.

Many portraits, busts, medallions, &c. have been executed of Jenner, for different public bodies and publications; the one accompanying this sketch, is taken by the kind permission of Dr. Baron, from a picture by Sir Thomas Lawrence, and is unquestionably the best likeness that has appeared. In Gloucester cathedral, a fine statue of him has been placed, executed by Sievier. It was effected by a subscription of the people of Gloucester.

Dr. Jenner's labours seem to have been most warmly appreciated in the East, and the two Presidencies transmitted substantial proofs of their regard. Public subscriptions were entered into, to remunerate him: £4000 was transmitted from Bengal; £2000 from Bombay; and £1383. 1s. 10d. from Madras. Poems were written in praise of vaccination; "*Il Trionfo della Vaccinia*, Poema di Gioachino Ponta, Genovese," published at Parma, and printed at the splendid press of Bodoni. "*La Découverte de la Vaccine*, Poème en Trois Chants, par un Médecin," "*An Ode to Hygeia on the Vaccine Inoculation*," by the Rev. T. D. Fosbrooke. Mr. Coleridge also contemplated a poem on the subject, but it was never accomplished; it was only, to use the poet's own language, one of his "lazy indefinite reveries, early dreamt about doing."

Dr. Jenner's last visit to London was in April 1814. Dr. Lettsom did the writer of this, the honour to introduce him to this celebrated man, and

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the impressions on his mind corresponded completely with those felt and so well described by Dr. Baron, (Life, vol. ii. p. 137.) Of the personal character of Dr. J. his biographer has left a pleasing record. His individuality is well depicted; his simplicity, his artlessness, the total absence of ostentation or display. "He was perfectly unreserved, and free from all guile. He carried his heart and his mind so openly, so undisguisedly, that all might read them. You could not converse with him, you could not enter his house, nor his study, without seeing what sort of man dwelt there." Dr. Jenner contemplated a review of his opinions, and a comparison of them with the facts which had been obtained from the experience of his professional brethren throughout the world. But he did not live to accomplish this design. His last writing, and which being on the back of a letter, the post-mark of which gives the date of January 14th, 1823, may fairly be considered as his parting statement, in allusion to the great object of his life, runs thus: "*My opinion of vaccination is precisely as it was when I first promulgated the discovery. It is not in the least strengthened by any event that has happened, for it could gain no strength; it is not in the least weakened, for if the failures you speak of had not happened, the truth of my assertions respecting those coincidences which occasioned them, would not have been made out.*"

It remains only to give a correct list of his publications:

1. On the Natural History of the Cuckoo. *Philosophical Transactions*, Lond. 1788.
2. A Process for Preparing pure Emetic Tartar, by Re-Crystallization. *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*. Vol. i. p. 30. Lond. 1793.
3. Inquiry into the Cause and Effects of the Variolæ Vaccinæ, Lond. 1798, 4to.
4. Farther Observations on the Variolæ Vaccinæ. Lond. 1799, 4to.
5. A Continuation of Facts and Observations, relative to the Variolæ Vaccinæ. Lond. 1800, 4to.
6. A Complete Statement of Facts and Observation, relative to the Cow-pock. Lond. 1800, 4to.
7. On the Origin of Vaccine Inoculation. Lond. 1801, 4to.
8. On the Varieties and Modifications of the Vaccine Pustule, occasioned by an herpetic state of the skin. Lond. 1804.
9. Observations on the Distemper in Dogs. *Transactions of the Medico-Chirurgical Society*, vol. i. p. 263. Lond. 1809.
10. Two Cases of Small-pox Infection, communicated to the Fœtus in Utero, under peculiar circumstances, with additional remarks. *Ibid.* p. 269.
11. A Letter to C. H. Parry, M.D. F.R.S. &c. on the Influence of Artificial Eruptions, in certain Diseases incidental to the Human Body. Lond. 1822, 4to.



W. G. S.

1840

JAMES DOUGLAS

Author of "The Life of James Douglas"

James D.

JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING.

*“Nec medici, nec imperatores, nec oratores, quamvis artis præcepta per-
ceperint, quidquam magnæ laudis dignum sine usu, et exercitatione consequi
possunt.”* CICERO.

A JUSTLY celebrated physiologist and physician* has well observed, that “that man is a scientific physician, who is well acquainted with, and has appropriated to, his own use, the results of all the inquiries which have been made at different times by eminent observers upon the symptoms, course, and causes of diseases, and with the precepts of treatment which they have recommended and employed.” And that, “to become a skilful practitioner, he must understand how to bring this knowledge into operation, and be ready to apply all its rules and deductions to each particular case.” This is a talent only to be acquired by the most patient observation, the most diligent study, and the most extensive practice; and if any one member of the medical profession is to be regarded as having most zealously laboured to attain this summit of medical knowledge, it is the subject of the present memoir, who has now for many years given to us the fullest evidence of his erudition and practical knowledge by the judicious and able manner in which he has conducted the “*Medico-Chirurgical Review, and Journal of Practical Medicine*,” a work which must be admitted to hold the very first rank and importance in medical periodical literature.

The opinion thus directly given of the merits and qualifications of Dr. James Johnson is not simply a result derived from the perusal of the pages of his review; but has been formed from an acquaintance with his practice, and an association with him in professional matters at various times, and during several years. It is not to be regarded as the language of panegyric—it is truly the payment of a debt of gratitude to one who has so ably led the minds of the medical public to a consideration of what is due to themselves as practitioners, and to those individuals whose happiness and lives have been committed to their care. The importance of an able and just periodical literature of medical science must be admitted by all—it is too generally entrusted to inexperienced hands, and crude theory has but too often usurped the place of practical observation. The press of the present day teems with the productions of authors on medical subjects, and

* Tiedemann—*Physiologie des Menschen*

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literary discrimination is more necessary than ever, to point out not only to the student, but also to the practitioner, the works of real value and necessary to be perused. This is a task of no little labour or difficulty—great information is necessary on the part of the guide, to accomplish this object in a satisfactory manner. Pope observed, that “the greater part of critics form a general character from the observation of particular errors, taken in their own oblique or imperfect views; which is as unjust, as to make a judgment of the beauty of a man’s body from the shadow it happens to cast in such or such a position.” As a critic, Dr. Johnson is not open to this censure—he stands indubitably one of the least prejudiced, and the manly way in which he has at all times stated his objections to the opinions expressed by others shows that he does not belong to the class so forcibly described by the poet just quoted.

DR. JAMES JOHNSON was born in the year 1778, in the parish of Ballinderry, county of Derry, Ireland, on the banks of Lough Neagh. His parents were Protestants; his father, a respectable yeoman, cultivating a small farm of twenty or thirty acres. James Johnson was the youngest son of a large family, none of whom, I believe, except himself, are now living. At the age of six years he was put to a grammar-school, kept by a Catholic, the brother of the parish priest. Here he made rapid progress, and, as I learn, was generally at the head of his class. When not so, he was very unhappy, and would sit up till midnight in study. At the early age of fifteen he passed an examination in Dublin, in the classics, and was apprenticed to a surgeon-apothecary (Mr. Young) in Port-glenone, in the county of Antrim. He remained there only two years, when he was transferred to Mr. Bankhead of Belfast, where he continued two years more, and then came to London, without either money or friends. He became assistant to an apothecary in the metropolis, and, by hard study and irregular attendance on lectures in anatomy and surgery, he passed a creditable examination at Surgeon’s Hall in 1798, and was appointed surgeon’s mate in the navy, in the month of May of the same year. In the *Mercury* frigate, he sailed to Newfoundland and Nova Scotia, always studying very hard, and, when the ship was in harbour, taking every opportunity of visiting the naval hospitals, abroad and at home. Captain Rogers, of the *Mercury*, who had a great antipathy to the Irish, made an exception in the case of his youthful surgeon’s mate, and winked at his absence from the ship for some months in the winter of 1799, when he studied night and day in London; and in January, 1800, he passed a triumphant examination, for the second time, at Surgeon’s Hall. Through the interest of his patron, Captain Rogers, he was appointed full surgeon in the navy, and appointed to the *Cynthia*, sloop-of-war, on the 27th of February, 1800, as appears by Steel’s Navy List. He was then in the twenty-second year of his age. In this ship he accompanied the famous expedition to Egypt, was at the siege of Belleisle, (not the American Belleisle,) and all the various descents which the troops

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made on the coasts of France, Spain, &c., till they reached Egypt. In the Mediterranean he was taken ill, and was sent back to Gibraltar Hospital, where he did duty for some time, under Mr. Vaughan, surgeon of the Naval Hospital there. From thence he returned to London in the winter of 1800, and studied in Great Windmill Street, under Mr. Wilson and Mr. Thomas. In the winter of that year, he distinguished himself as a dissector, and very generally prepared the subjects for Mr. Wilson's and Mr. Thomas's lectures and demonstrations, as the latter gentleman still states with pleasure. It was in this winter that the present Master of the Rolls, (then Mr. Bickersteth,) and Mr. Johnson formed a society of six individuals, who gave demonstrations daily, in their turn, to a large class of medical students, in the anatomical theatre of Windmill Street.

In May, 1801, Mr. Johnson's slender finances were entirely exhausted, having expended his last farthing on lectures and studies. In the spring of that year, being anxious to attend a course of midwifery lectures, but not having the means of paying the fee, he stated his circumstances to the late Dr. John Clarke, then a distinguished lecturer in Burlington Street, who instantly gave him a free ticket of admission, and invited him to his table. Mr. Johnson never forgot this act of generosity, and has frequently related the anecdote.

In June, 1801, Mr. Johnson applied to the Navy Medical Board for a ship, and tendered a certificate from Mr. Wilson, couched in the following remarkable terse language to Dr. Harness:—"The *bearer* of this, Mr. James Johnson, has actually *lived* in the dissecting-room of Great Windmill Street during the last six months. Examine him, and see whether he has studied in vain." Dr. Harness instantly appointed him to the "Driver" sloop-of-war, in which ship he served in the North Sea, visiting the Orkney and Shetland Islands, and going with a convoy to the vicinity of Greenland and Hudson's Bay.

At the peace of 1802, he was again out of employ, and passed a few months, and spent the remainder of his scanty finances in study in the metropolis. It then required great interest to get employment on the peace-establishment, and Mr. Johnson had none. He applied to the Sick and Hurt Board, and the late Sir Gilbert Blane having entered into conversation with Mr. Johnson, gave him a help, and he was immediately appointed to a fine frigate, (the "Caroline,") fitting for the East Indies. In May, 1803, he sailed for the East; and during the next three years, in India and China, he laid the foundation for his first medical work, *The Influence of Tropical Climates on European Constitutions*.

In 1806 he returned from the East Indies, and having been successful in prize-money, he now entered as a student at Guy's and St. Thomas's, and became acquainted with Sir Astley Cooper, Dr. Curry, and other distinguished characters of the period. In the autumn of the same year he married Miss Charlotte Wolfenden, of Lambeg, in the county of Antrim;

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and after a year or two of attendance on prisoners-of-war at Plymouth and Portsmouth, he was appointed to the "Valiant," of seventy-four guns, in which ship he remained nearly five years, and saw a great deal of active service. This was one of the two line-of-battle ships that forced their way into Basque Roads, between strong batteries, and burnt the French fleet there. Afterwards, in 1809, he was present at the Walcheren expedition, and narrowly watched the havoc of disease on those pestiferous islands.

In 1812, he published the first edition of his work on *Tropical Climates*, chiefly at his own risk and expense, and immediately on its appearance, he was appointed flag-surgeon, with the late Sir William Young, then in command of the North Sea fleet. Here he did the duty of physician to the fleet, and acquired the friendship and patronage of Admiral Young, which continued till the death of the latter in 1820.

At the peace of 1814, the late King, then Duke of Clarence, hoisted his flag in the "Impregnable," when Sir William Young retired, and Mr. Johnson was so strongly recommended to the Duke, that he was retained, and served with his Royal Highness while conveying the Emperor of Russia, King of Prussia, &c., &c., to this country. The Duke had an attack of his hay-asthma at Boulogne, while waiting for the crowned heads, and Mr. Johnson attended his Royal Highness, and the attack was very soon overcome. The Duke was so much pleased with Mr. Johnson, that he exerted all his influence to obtain for him the rank of physician to the fleet, but was baffled by Lord Melville, then at the head of the Admiralty. The Duke appointed him surgeon-in-ordinary, and always afterwards treated him with great kindness.

At the conclusion of the war in 1814, Mr. Johnson settled at Portsmouth as a general practitioner, and in less than two years got into extensive practice. But his health was not good; and perhaps his ambition was strong, for in July, 1818, he removed to London. This was a bold step. With the exception of Sir William Young, he had no friends whatever in the metropolis: he had a family of five children; and, as he has told me, was not worth five hundred pounds in the world. Since that period—now twenty years or more—his life, in a professional point of view, has become well known. He had taken out a Scotch degree in 1813; and he became a licentiate of the College of Physicians in 1820.

Dr. Johnson's first publication was not a medical one. It was entitled *The Oriental Voyager*, published in 1808, and presented an amusing account of his voyages and observations in the East. His next was the work *On Tropical Climates*, published in 1812, and which has gone through five editions. The most experienced practitioners in the diseases of hot climates have uniformly expressed the high opinion they entertain of this work. The application of physiological knowledge to the treatment of disease is beautifully illustrated by the author. The fifth edition contains the substance of his treatise on Indigestion.

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While serving with Sir William Young in the North Sea, he published some papers in the *New Medical and Physical Journal*; and when he settled at Portsmouth, he appeared as one of the editors of that work. The Journal, however, had but little success; and in July, 1818, when Dr. J. came to the metropolis, he took the bold and dangerous step of starting a *Quarterly Review*, entirely at his own risk and expense, and conducted by himself alone! To his astonishment, the first edition of the first number was exhausted in the first week, and the work rapidly rose to a circulation of 1250, 1500, 2000, and ultimately 2500 copies. This journal is the only medical one that has ever been reprinted in a foreign country. It has been republished regularly in New York for many years past, and circulates widely in the United States. His private practice increased with the Journal, and the mental and corporeal labour required for his public and professional avocations was enormous, and such as would have destroyed the health of any one who had not an excellent original constitution, and great facility of composition, verifying what the best prose writer perhaps of the present day has observed, that "he who thinks least about it when engaged in composition will be most likely to attain it, for no man ever attained it by labouring for it."* I know, on the best authority, that for years and years Dr. Johnson never even read over the copy of his reviews before it went to press; and so few were the corrections afterwards made, that the cost of these seldom exceeded a few shillings on each quarterly number of his journal. Dr. J. has often declared, that the only secret of his being able to go through such extensive literary labour was his punctuality. Whatever might be his professional avocations of the day, he seldom or never went to bed till the number of pages necessary for the Journal were completed. When private practice was not pressing, he took care to have the Journal far in advance, so that it was always ready long before quarter-day. Excepting when on his tours of health, he never relaxed an hour, or hardly a minute, during the day, from work of some kind or other. Indeed, his excursions at home and abroad were not even exceptions to this law; for incessant activity of mind and body has been the characteristic of his life.

Such uninterrupted labour, however, could not be carried on for years with entire impunity. In 1823, after suffering severely from a surgical operation, he recruited his health by a three months' tour in Switzerland, &c.; but in 1826 his dyspeptic complaints assumed an aggravated form, and threatened his life. At this period he was obliged to relinquish, for a time, his professional avocations, and in that retirement wrote his *Essay on Indigestion*, drawn from personal as well as general observations on that afflicting and Protean malady, the scourge of those who overwork the brain as well as the body. This work, which has gone through nine editions, and has been translated and reprinted in different countries, brought his private

* The Doctor, Vol. II. p. 201.

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practice to the highest point compatible with his health, which, of late years, has been remarkably good. The first four editions of this work were demanded in the short space of nine months. Few books upon a subject which has been so generally treated of, and upon diseases with which so many are afflicted, have been so popular, yet so entirely devoid of quackery. Beaumont and Fletcher have truly said,

“What an excellent thing did God bestow on man
When he did give him a good stomach.”

Dr. Johnson felt the want of this blessing, and applied his mind to the relief of his sufferings—this has contributed to the happiness of others, for the treatment he proposes is at once energetic, and founded upon a due observation of the phenomena of disease, and the operations of the animal economy. The last edition of the work has a description of the Bath of Pfeffers in the country of the Grisons.

In 1831 he published his first edition of *Change of Air, or the Pursuit of Health*, which has gone through four editions, and is considered by himself as the best of his literary labours, though apparently written *currente calamo*. This volume was the result of an autumnal excursion through France, Switzerland, and Italy, in the year 1829, and contains many judicious observations on the moral, physical, and medicinal influence of travelling, exercise, change of scens, freeign skies, and voluntary expatriation. The work opens with reflections on education and avocation, and most truly depicts the “wear and tear” of human life. This applies equally to the body and the mind, the connexion between which and their sympathies, in all the modifications of pleasure and of pain, and the relation which obtains between the condition of the intellectual faculties and those functions which constitute the animal economy, are well known to be subjects of great intricacy and difficulty. They belong properly, perhaps, more to the natural philosopher than to the moralist, but the researches of either have hitherto not been productive of any positive information upon the subject. The alliance, however, must be admitted—the connexion is apparent, though the cause be obscure. All the great writers of antiquity have remarked upon the effects of excess on the operations of the intellect. Horace devotes a satire to the advantages of temperance, and he remarks, with that energy which so particularly distinguishes all his writings, that the body overcharged with the excess of yesterday, weighs down the mind together with itself, and fixes to the earth that particle of the divine spirit.

“————— Vides, ut pallidus omnis
Cœnâ desurgat dubiâ; quin corpus onustum
Hesternis vitiis, animum quoque prægravat unâ,
Atque affigit humo divinæ particulam auræ.”—Hor. Sat. ii. l. 2.

No one has, in my opinion, more tersely or more truly expressed the value of health than Sir William Temple:—

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“ Health (he says) is the soul that animates all enjoyments of life, which fade and are tasteless, if not dead, without it : a man starves at the best and the greatest tables, makes faces at the noblest and most delicate wines, is old and impotent in seraglios of the most sparkling beauties, poor and wretched in the midst of the greatest treasures and fortunes : with common diseases strength grows decrepit, youth loses all vigour, and beauty all charms ; music grows harsh, and conversation disagreeable ; palaces are prisons, or of equal confinement ; riches are useless, honour and attendance are cumbersome, and crowns themselves are a burden ; but, if diseases are painful and violent, they equal all conditions of life, make no difference between a prince and a beggar ; and a fit of the stone or the colic puts a king to the rack, and makes him as miserable as he can do the meanest, the worst, and most criminal of his subjects.”

Dr. Johnson not only points out the cause of the “Wear and Tear of Modern Life,” but he distinctly states the means of counteracting these effects ; and all who delight in the union of literary taste with scientific inquiry will peruse Dr. J.’s work with great satisfaction.

In 1833, he published an amusing tour to the Hebrides, entitled *The Recess, or Autumnal Relaxation in the Highlands and Lowlands*.

In 1836, he published *The Economy of Health, or Stream of Human Life*, which has gone through three editions, and is a very popular production. Butler says,

“ There is a kind of physiognomy in the titles of books, no less than in the faces of men, by which a skilful observer will as well know what to expect from the one as the other.”

Here is matter for the metaphysician and the moralist, as well as the physician. The stream of life from the cradle to the grave !

“ ————— so gliding on
It glimmers like a meteor, and is gone !” ROGERS.

And ’tis what Shakspeare said of love—

“ The uncertain glory of an April day,
Which now shows all the beauty of the sun,
And by and by a cloud takes all away.”

For, as Felltham has written,

“ The life of man is the incessant walk of time, wherein every moment is a step towards death. Even our growing to perfection is a progress to decay. Every thought we have is a sand running out of the glass of life. Every letter which I now write is something cut off from the measure of my existence here.”

Dr. Johnson divides it into ten septenniads, and treats of all its various conditions—the evolution and progress of functions—the changes peculiar to the different periods—the diseases of most common occurrence, under varieties and vicissitudes of climate and seasons—and the gradual decay of the mortal fabric. All these important matters are the subjects of Dr. J.’s philosophical observation and speculation, and the manner in which they are treated illustrates the advantages arising from a comprehensive knowledge of the whole science.

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During all this time his literary labours in the *Medico-Chirurgical Review* have been indefatigable, though assisted by his son, and by various writers now employed in that work. For the first ten or twelve years, almost every article in that journal was written by himself, for which I have his own testimony, affording a sufficient proof of the assiduity of his studies, and the remarkable facility of his compositions. He states himself to have been almost entirely *self-taught*, both literary and professional; and from the expiration of his short apprenticeship, he supported himself without ever receiving a shilling from his relations.

Through a long and chequered life, he seems to have offered an exception to the dictum of the poet:

“Haud facile emergunt, quorum virtutibus obstat
Res Angusta Domi”

for he overcame all obstacles apparently without difficulty, and rose to comparative affluence and reputation, by easy but regular exertion of his intellect. Considering the difficulty and danger of the office of reviewer, I believe that he has made exceedingly few personal enemies—and most of these few have become his friends in the sequel.

In private practice he is one of the most popular physicians of this metropolis. His manners are mild and kind to his patients, and he has the art of inspiring great confidence in those whom he attends—an art, which, like that of poetry,

“Nascitur non fit.”

In his domestic affairs he has been fortunate and happy. His eldest son, Mr. H. J. Johnson, is united with his father as editor of the review, and is very much liked as a teacher of anatomy in the Kinnerton Street School, and bids fair to arrive at lucrative and honourable distinction in his profession. His second son, Mr. W. Johnson, took honours at Cambridge, obtained a fellowship, and is called to the bar. His third son is a solicitor: and his youngest son is studying under his eldest brother for the profession, at St. George's Hospital. His only daughter is married to a gentleman in the legal profession. Dr. Johnson may, therefore, now be considered as practising for the love of his profession, rather than for the support of a family, who are almost all provided for. He has always been a sedulous attendant on the various medical societies, and an active promoter of medical discussions in these institutions, where, indeed, he seems to be a general favourite.—Though remarkably cheerful in society, I have reason to believe that the subject of this memoir is pensive, and rather melancholic in private. This is probably the case with a majority of those whose literary productions and convivial conversations would lead us to think them the gayest of the gay. In religion, general politics, and medical politics, Dr. J. is known to be liberal, though free from scepticism, or ultra-radicalism. In the relations of private and domestic life, nothing is known but what is most honourable to his character.



Wm Laurence.

WILLIAM LAWRENCE, F.R.S.

SURGEON EXTRAORDINARY TO THE QUEEN.

“ Much may be gained by studious inquiry ; but much more will ever remain than man can discover.”—FELLTHAM.

WILLIAM LAWRENCE was born at Cirencester in Gloucestershire, in July, 1783. His father was a surgeon in this town, and practised there for a long period. He died in 1837, at the advanced age of eighty-four, having retired from the profession many years before his death. The subject of this memoir received his education at a classical school near Gloucester, where he studied for seven years and a half, after which, in February, 1799, he went to reside in the house of Mr. Abernethy, to whom he was apprenticed. The advantages of such a position were fully estimated by Mr. Lawrence, and he has recorded his testimony to the character and talents of his distinguished teacher. In his introductory lecture delivered at the Royal College of Surgeons, he addresses the members in the following manner :

“ You and the public know, and have long known, his acute mind, his peculiar talent for observation, his zeal for the advancement of surgery, and his successful exertions in improving the scientific knowledge and treatment of disease. His singular happiness in developing and teaching to others the original and philosophic views which he naturally takes of all the subjects that come under his examination ; and the success with which he communicates that enthusiasm in the cause of science and humanity, which is so warmly felt by himself ; the admirable skill with which he enlivens the dry details of elementary instruction ; are most gratefully acknowledged by his pupils. All these various excellencies have been repeatedly felt in this theatre. Having had the good fortune to be initiated in the profession by Mr. Abernethy, and to have lived for many years under his roof, I can assure you, with the greatest sincerity, that, however highly the public may estimate the surgeon and the philosopher, I have reason to speak still more highly of the man and the friend ; of the invariable kindness which directed my early studies and pursuits, of the disinterested friendship which has assisted every step of my progress in life, and the benevolent and honourable feelings, the independent spirit and the liberal conduct, which, while they dignify our profession, win our love, and command our respect for genius and knowledge, converting these precious gifts into instruments of the most extensive public good.”

The zeal manifested by Mr. Lawrence in anatomical pursuits induced Mr. Abernethy to appoint him demonstrator of anatomy at St. Bartholomew's

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Hospital when he had not completed more than three years of the term of his apprenticeship; and this situation he maintained for twelve years, to the great satisfaction of the pupils. He was admitted a member of the Royal College of Surgeons in September, 1805, and was appointed Assistant Surgeon to St. Bartholomew's Hospital in March, 1813, and in May, 1824, one of the principal Surgeons. In 1813 he was elected a Fellow of the Royal Society; in 1814, Surgeon to the Eye Infirmary; and in 1815, Surgeon to the Royal Hospitals of Bridewell and Bethlem. In the same year he was chosen one of the Professors of Anatomy and Surgery to the College, and he delivered the lectures for four years. He also delivered a course of lectures on surgery at the Medical School in Aldersgate-Street, in the winter of 1826-7; but retired from that school to succeed Mr. Abernethy at St. Bartholomew's Hospital as Lecturer on Surgery in the session of 1828-9. The Eye Infirmary he resigned thirteen or fourteen years since. The other appointments he still retains, and is a most deservedly popular lecturer at the hospital.

Mr. Lawrence's earliest work consists of a translation from the Latin of *A Description of the Arteries of the Human Body, reduced into the form of Tables*, by ADOLPHUS MURRAY, M.D., *Professor of Anatomy and Surgery at Upsal*. This work appeared in 1801, undertaken at the suggestion of Professor Macartney, and was published as having been executed under his inspection; but Mr. L.'s name was not affixed to it. The importance of tables to assist the student in his anatomical researches is now fully admitted. Mr. Macartney had collected materials for a series of tables containing an account of the demonstrative parts of anatomy, but they have never been published. It will easily be conceived, that Dr. Murray's work is accurate and able, and that the translation by Mr. L. has been faithfully made. In a preface to the work by Mr. Macartney, he says, he "has not had occasion to make a single correction of consequence."

In 1806, the Royal College of Surgeons announced *The Treatment of Hernia* as the subject for a prize essay. For this Mr. L. successfully competed, and the essay was published in the ensuing year. The best evidence of the value of this work is afforded by the fact, that successive editions have been demanded, and that in the course of this year a *fifth* appeared. Notwithstanding the labour and accurate descriptions of Pott, Richter, Monro, and Cooper, in this department of surgery, there was yet room for a manual on the subject which should present to the practitioner at one view all the varieties observable of the disease, and point out also the several modes that have been adopted for their relief. This, Mr. L. has most ably effected, and his treatise will always be considered as of great value. The history of hernia is given as far as is necessary, the symptoms and progress of the disease clearly described, and in the later editions, particularly the last, important additions are given as to the varieties and treat-

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ment, derived from an extensive practice in the wards of St. Bartholomew's Hospital.

The importance of Comparative Anatomy in elucidating the structure and functions of the human body, is too well known to need enforcement in the present day; and it is not a little remarkable, that, until the labours of Blumenbach appeared, nothing like a direct system of the subject should have been brought forth. The reception this work met with in Germany, the well-known character of its most enlightened and amiable author, whose name is truly dear to every lover of science, induced Mr. L. to undertake a translation, and to subjoin an abundance of notes, derived from the labours and researches of the naturalists of this and all other civilized countries, and to prefix an Introductory View of the Classification of Animals, for the information and assistance of the student. The translation is admitted on all hands to have been made faithfully and elegantly, and its publication has tended in an especial manner to promote the cultivation of comparative anatomy in this country. As the work is elementary, it does not admit of analysis. A *second* edition, with notes, was published in 1827, by Mr. W. Coulson. The *first* appeared in 1807.

In 1808 Mr. Lawrence communicated to the Edinburgh Medical and Surgical Journal some *Observations on a peculiar affection of the Testis, attended with the growth of Fungus from that organ*. The affection, although undescribed by any previous writer, is not of very rare occurrence, and has been successfully treated, without resorting to the extirpation of the organ. It is very commonly the effect of a blow received on the part, which sets up an inflammatory action in the glandular substance, which goes on to produce destruction of the coverings, and, ultimately, ulceration of the scrotum, when a fungus shoots forth, and the pain previously experienced subsides. This fungus Mr. Lawrence has found to consist of the tubuli seminiferi, and he has detected the continuity of the excrescences with the pulpy substance of the testis itself. Destruction of the fungus (by the knife in preference to the ligature or caustic) enables the integuments to approximate, and the wound heals by a cicatrix, which is firmly connected with the organ in which the disease first sprung up. From this statement, it will be seen how necessary it is to mark the difference between this condition and that which is properly regarded as the fungoid disease of the testis, which is of a malignant character, and following a course of symptoms essentially distinct from those described by Mr. Lawrence.

In 1809, Mr. Lawrence contributed to the same work *Observations on Lithotomy, with the Account of a Case in which the Operation was performed with the Knife*. Considering the success which attended the operations of Mr. Cheselden, it is astonishing that the knife should ever have been abandoned for the gorget, to cut through the membranous parts of the urethra, the prostate, and the neck of the bladder. Mr. L.'s object is to enforce the use of the knife, and to return to the true lateral operation

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of Mr. Cheselden. His description of the operation is concise, yet perfect, and the few instruments rendered necessary, namely, a staff, a knife, and the forceps, marks its simplicity, "what is more than these (he justly says) cometh of evil."

In 1809, the late Mr. J. J. Watt published *Anatomico-Chirurgical Views of the Nose, Mouth, Larynx, and Fauces*; and he obtained the aid of Mr. Lawrence to give an additional anatomical description of these parts, the importance of which may be estimated from the variety of morbid affections to which they are subject, and the intimate connexion they hold with many of the functions on which life may be said to be in a great measure dependent. The anatomical detail is not unnecessarily minute, but sufficiently full to give to the student a clear idea of the nature of those parts, and the purposes for which they were ordained. Mr. Watt also published a similar work on the anatomy of the pelvis, to which Mr. Lawrence contributed, as in the former case, the descriptions, demonstrations, and superintendence of the drawings.

An Introduction to Comparative Anatomy and Physiology; being the Introductory Lectures delivered at the Royal College of Surgeons, on the 21st and 25th of March, 1816.

Lectures on Physiology, Zoology, and the Natural History of Man. Delivered at the Royal College of Surgeons, 1819.

The publication of these works gave rise to the charge of materialism against Mr. Lawrence, and he was vigorously assailed from various quarters. The Christian Advocate in the University of Cambridge, the late Rev. Thomas Rennell, a most able and excellent man, esteemed it a part of his duty to examine into the works of Mr. Lawrence and others, upon the subject of life and organization, and to espouse the opinions of John Hunter and Mr. Abernethy. It appears that the lectures of the latter gentleman, delivered at the Royal College of Surgeons, on "An Inquiry into the Probability and Rationality of Mr. Hunter's Theory of Life," gave rise to the discussion. Mr. Lawrence, in his introductory lecture at the College, combated Mr. Hunter's opinions, and, of course, those by which they had been publicly advanced and supported. Mr. Abernethy replied in his "Physiological Lectures" in 1817, and Mr. Lawrence reverted to the subject in his Course in 1818.

There is unquestionably no subject so difficult as that of LIFE, in the whole range of physiological inquiry—its essence exceeds the power of human investigation—its effects and its properties are sufficiently obvious to our senses; but beyond this knowledge we can proceed but little, or rather not at all. Mr. Hunter's opinions on the subject, it must be confessed, carry us a very short distance in the inquiry beyond that of assembling together the phenomena of life. He considers it as *some* principle of activity added by the Deity to structure peculiarly organized; but what this principle may be, he does not pretend to determine, and herein

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Mr. Hunter showed his sagacity. The principle of life he, however, conceived to exist throughout the body, and to be connected with that matter which principally composes the brain. His words are,

“ I consider that something similar to the materials of the brain is diffused through the body, and even contained in the blood, between which and the brain, a communication is kept up by the nerves.”

He evidently regarded life as something distinct from organized structure; yet always connected with it. This connexion is apparent in all the actions of life, and the influence exerted by these on the intellectual operations, is abundantly manifest. Mr. Abernethy is satisfied with Mr. Hunter's statement of the matter. He says,

“ Thus my mind rests at peace in thinking on the subject of life, as it has been taught by Mr. Hunter; and I am visionary enough to imagine, that if these opinions should become so established, as to be generally admitted by philosophers, that if they once saw reason to believe that life was something of an invisible and active nature superadded to organization; they would then see equal reason to believe that mind might be superadded to life, as life is to structure. They would then indeed still further perceive how mind and matter might reciprocally operate on each other, by means of an intervening substance. Thus even would physiological researches enforce the belief which I may say is natural to man—that in addition to his bodily frame, he possesses a sensitive, intelligent, and independent mind: an opinion which tends in an eminent degree to produce virtuous, honourable, and useful actions.”—pp. 94, 95.

Mr. Lawrence's opinions are unfolded in the “ Introductory Lectures,” (particularly the second,) and in the first and fourth of his “ Lectures,” already alluded to. He ridicules the doctrine of Mr. Hunter, and is, perhaps, blameable for indulging in some sarcastic reflections upon those who supported such opinions. This is, however, in a certain degree excusable, as being inseparable from the enthusiasm of a devoted lover of the science which he was appointed to teach. Angered, evidently, by the attacks of Mr. Abernethy, and the charges attempted to be fixed upon him, being of a no less serious nature than that of “ perverting the honourable office intrusted to him by the College of Surgeons, to the very unworthy design of propagating opinions detrimental to society, and of endeavouring to enforce them for the purpose of loosening those restraints on which the welfare of mankind depends,” he gave unbridled scope, not only to the full expression of his opinions, but also to the exercise of his fancy, and the display of his oratorical powers. We may, however, fairly question the purity of his taste, and regret that he should have indulged in observations reflecting too lightly, and, perhaps, irreverently, upon subjects regarded as sacred, and that he should have tinged his discourses also by allusions to political things and circumstances: I say, that as a matter of taste, we may differ with Mr. Lawrence in this respect, and, although we may be disposed to admit of a considerable license in the

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discursive delivery of a lecture, we may yet not approve the judgment which permitted him to submit those expressions to the press. The opinions of Mr. L. on the subject of life are those of many preceding physiologists and philosophers. He regards the functions as the offspring of the structure—the life as the result of the organization;* hence, that the consideration of these, which embraces the sciences of anatomy and physiology, cannot be separated from each other.

“Life (says he) is the assemblage of all the functions, and the general result of their exercise. Thus organization, vital properties, functions, and life, are expressions related to each other; in which organization is the instrument, vital properties the acting power, function the mode of action, and life the result.”—Pp. 120, 121.

“We find that the motion proper to living bodies, or, in one word, Life, has its origin in that of their parents. From these parents they have received the vital impulse; and hence it is evident, that in the present state of things, life proceeds only from life; and there exists no other but that, which has been transmitted from one living body to another, by an uninterrupted succession.”—Pp. 441, 142.

Yet, Mr. Lawrence has no hesitation in affirming,

“That no connexion has been established, in any one case, between the organic texture and its vital power; that there is nothing, either in the nature of the tissue, or in the combination of the elements, of any animal structure, that could enable us to determine beforehand what kind of living phenomena it will exhibit; and consequently that this, like all other branches of human knowledge, consists simply in an observation of the succession of events.”—Pp. 143, 144.

Mr. Lawrence's remarks on the opinions of Mr. Hunter, occasioned Mr. Abernethy, in the ensuing year, to defend himself, and at the same time he did not fail to attribute to those who entertained a different view of the subject the possession of “either a deficient or perverse intellect.” Mr. L.'s reply is to be found in his course of lectures delivered in 1818, the publication of which proved a source of considerable excitement. He has been roundly accused of infidelity, and of not entertaining a belief of the immortality of the soul; and, upon the assumption of entertaining these opinions, he has been most virulently attacked.

This is a controversy into which I have no disposition to enter. I have no wish to trespass upon what may be regarded as theological ground, or to indulge in the consideration of any abstruse metaphysical speculations.

* “In accuracy of language, organization is not a structure, nor is a structure organization. Organization is a general expression for the process or processes by which an organized structure is formed, and therefore can never properly denote the possession of organs or instruments for accomplishing certain purposes, but only a series of operations by which organs or instruments are formed, with a view to accomplish certain purposes. In other words, organization is the means employed in causing the structure, and not an effect produced by the structure.” See Dr. Barclay's “Inquiry into the Opinions, Ancient and Modern, concerning Life and Organization,” p. 340. This author thus distinguishes organization from organic structure, employing the term organism to denote the latter condition.

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To trammel the mind with these, is to retard the progress of physiological science. I am content to view the vital phenomena as they present themselves to our senses through the whole range of animated nature, and to leave those ulterior reflections to the theologian and metaphysician, deeply impressed with the truth of what was uttered by (I believe) Simplicius, "that it cannot be that our thoughts should reach the heights of first principles." No one can question the brain being the material instrument of the mind, and that upon the developement and perfection of this organ depends the perfection or excellence of the mental powers.

MIND is a term I would employ to designate the powers of the nervous system, consisting of the organs of sense producing sensation in general—thought or intellect, the result of perception arising from sensation, the general function of the cerebrum—and volition or will, the general function of the cerebellum. MIND, I conceive to embrace all these functions; and I earnestly entreat that I may not be understood as including the SOUL, which ought not, and, as I think, cannot be confounded with that of mind. The mind we see feeble and weak in infancy, whilst the brain is yet but imperfectly developed;—as the structure of this organ proceeds towards perfection by advancing years, the mind acquires with its growth strength and maturity; and as age creeps on, and the powers of the system decline and decay, so also does the mind and its powers manifest a declension of faculty. These are changes which do not apply to the soul—that is IMMORTAL, and cannot therefore be dependent upon the organism of the frame.

There is no subject in physiological science which presents so much complexity, and which must be attended with so many difficulties, as an investigation into the functions of the nervous system in the production of thought, of sensation, and of motion. The wisest, the greatest, and the best of our race have hazarded conjectures and ventured upon speculations, which have been attended with but little satisfaction, and have at last been compelled to admit the inscrutable nature of the subject. The influence of the will over the body, the knowledge of the cause of life and thought, and the mode in which various bodies act, so as to produce sensations of colour, form, size, odour, taste, &c., all seem to be involved in impenetrable obscurity. It was well observed by my late friend, Dr. Cooke, that,

"Physiologists have often erred by paying more attention to the investigation of the nature of the subjects of their inquiries, than to that of the laws by which they are governed. Of the *ultimate nature or essence*, either of mind or matter, or of that compound which we call the nervous system, we know nothing; but of the laws by which it is governed, or rather the circumstances by which it is influenced, we know enough to enable us, in some degree at least, to understand the nature and causes, and to explain the phenomena of many of its morbid affections."

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The essence of the thinking principle appears by the ancient philosophers, to have been very generally sought after in some modification of matter of the most subtile description. Democritus affirms the soul to be a sort of fire or heat; and Aristotle, in his book *De Anima**, says, that it has been thought to be fire, because fire is the most subtile, most moveable, and most moving of all the elements. The thinking principle has been compared to air, to vapour, to light:—the latter conjecture belongs to the Pythagorean school, in which it was imagined to consist of lucid particles floating in the air. Thales and Anaxagoras believed it to be the principle of motion. Aristotle does not clearly state his own opinion as to its nature. The soul is not body, he says, yet it is something belonging to body—it is that by which we live, and perceive, and understand. Plato contends for its immortality—for its entire distinctness from the body. He says,

“It is placed in the highest part of the body, and leads to heavenly contemplation; it was created before body, and will live after it; it is invisible, indestructible, and consequently immortal.”

It is not possible here to pursue the subject further—it would necessarily occupy a volume instead of a few pages, and altogether, it must be admitted, that in all the writings upon this subject, both ancient and modern, there exists much confusion. In these things, therefore, it is, perhaps, best to say with Owen Felltham, that “in things of which I may be certain, I will labour to be instructed: but when I come where reason loses herself, I will be content with retiring admiration.”

The lectures on the Natural History of Man, are arranged in chapters, and treat of every division of the subject. The patience, assiduity, and research of Mr. Lawrence, are exhibited in every page, and the work furnishes to the inquirer into the history of our species, and, indeed, to that of the whole empire of living nature, a most interesting and extended manual. The doctrines I have alluded to, however, occasioned a suppression of the original publication, by which many spurious editions have been sent forth to the public.

In 1830, Mr. Lawrence published *A Treatise on the Venereal Diseases of the Eye*. This work gives the result of his experience upon the nature, symptoms, and treatment of the venereal diseases affecting the organ of vision. The cases are given circumstantially, and are drawn up entirely from his own practice. They may, therefore, be considered as an accurate and impartial representation of facts, upon a subject of the highest importance. Diseases of the eye have, until lately, been too much engrossed by professed oculists, who have not failed to benefit themselves, but have contributed little or nothing to the advancement of the profession. There are, unfortunately, but few exceptions to this statement. The establish-

* Lib. i. cap. 2.

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ment of Ophthalmic Institutions in the metropolis, and in some of the provincial towns, has done much to throw this branch of practice into the hands of those versed in the general principles, and engaged in the practice of general surgery. The advantages gained by this arrangement, are illustrated by the works of Mr. Lawrence, Mr. Travers, Mr. Wardrop, Mr. Tyrrell, Mr. Guthrie, and some others. Mr. Lawrence divides his subject, in the work now alluded to, into the gonorrhœal and the syphilitic, and of these he gives a particular history. The cases of gonorrhœal ophthalmia deserve particular attention—the instances in which it has presented itself to Mr. Lawrence's notice have been remarkably severe, and the adoption of the methods employed by him at an early period, may be the means of saving the organ from entire destruction. This is to be taken in its widest sense, and as applicable to the majority of cases, though, I must confess that, in my own limited practice on the subject, I have found astringent applications to afford greater relief than Mr. Lawrence seems disposed to admit. The chief reliance, however, is to be placed upon active depletion in the earliest stage of the complaint. The subject of syphilitic iritis, is treated of in a masterly manner.

In 1833, Mr. Lawrence put forth *A Treatise on the Diseases of the Eye*. It is to be regarded as an extended detail of a Course of Lectures on the Anatomy, Physiology, and Diseases of the Eye, delivered at the London Ophthalmic Infirmary. The work is elementary, and no analysis can be here given of it. It embraces not only the author's opinions, but those of all writers of eminence on the subjects of which it treats.

In 1834, Mr. Lawrence delivered the Hunterian Oration at the Royal College of Surgeons. He has portrayed with a masterly hand, and an eloquent spirit, the genius of John Hunter, who, as a physiologist and a surgeon, he considers to have had no equal in any age or country. He regards him as

“one of those powerful minds, appearing only at long intervals, of which this island, small as it is, has produced so great a number;—that his name must be inscribed on that bright constellation of genius, which already bears those of Harvey and Sydenham, of Bacon, Locke, and Newton, of Shakspeare, Milton, Scott, and Byron.”

These constitute the published *entire* works of Mr. Lawrence; but he has contributed largely to various publications. To the *Cyclopedia* of Dr. Rees he furnished all the articles on anatomy and physiology, and some of those on comparative anatomy. His communications to the *Edinburgh Journal* have already been noticed, and it remains to specify no less than thirteen papers, published in the *Transactions of the Medico-Chirurgical Society*, of which he was the President in 1831-2.

1. *Case of a Woman who voided a large number of Worms by the Urethra*. (Vol. ii. p. 385.) There are few subjects involved in greater obscurity than that of the generation of worms in different parts of the

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human body. Their existence in the intestinal canal has generally been attributed to the introduction of their germs by the mouth; many facts have, however, been stated by naturalists, which go to prove the uncertainty of this opinion, for they have been found even in the embryo of different animals. That worms should be found in the urinary organs is extraordinary; but the case of Mr. L. and another, shown to me by the present President of the College of Surgeons, and others which are upon record, demonstrate the fact, and place it as a matter of certainty. It must be understood, that these cases are quite unconnected with those of intestinal worms perforating the bowels, and thus gaining admittance into the bladder. The case related by Mr. L. occurred in the practice of Mr. Barnett, and is most extraordinary, not less than from 800 to 1000 worms, varying in size from an inch and a half to eight inches in length, and of the thickness of a piece of bobbin, were discharged, twenty-two being the greatest number brought away at any one time. The worms were of a particular character, and are figured to illustrate Mr. L.'s paper.

2. *Account of a Child born without a Brain, which lived four days; with a Sketch of the principal deviations from the ordinary formation of the Body; Remarks on their production; and a View of some physiological inferences to which they lead.* (Vol. V. p. 165.) Acephalous, or headless foetuses, are of such frequent occurrence, that they have often been described, and Geoffroy St. Hilaire has given a very minute account of them in his *Philosophie Anatomique*. Mr. L. has accurately described his case, and extended his view to other monstrous deviations from the normal condition. The utility of inquiries of this kind have been questioned, and Mr. L. replies to them in the following satisfactory manner:

“Our conceptions of nature will be more correct in proportion as they are drawn from a more extensive survey of her works; and, that we cannot fail to learn something of her mode of proceeding by attending even to the imperfect sketches, which she seems to have abandoned as incapable or unworthy of being completed. The causes of these failures, and the conditions necessary to the production of perfect beings, cannot be understood without carefully noticing in what the imperfections consist, and the circumstances under which they are produced. This subject, too, elucidates several questions in the hypothesis concerning generation. By showing us what happens when an important organ is wanting or malformed, it contributes to fix our opinions respecting its uses. It also exemplifies the general fact of the regularity of nature's works; since we see her, even in these abortive attempts, acting according to a rule, and deviating from her accustomed mode of proceeding, not capriciously, but in a certain series and order.”

Of the imperfect organizations of the most striking kind, and to which the term monster has been usually applied, Mr. L. makes four divisions:

“1. Unnatural formations. 2. Unusual position of certain organs. 3. Of deficiency. 4. Of redundancy of certain parts. The kinds of monstrosity are not kept distinct in each case: they may all be united in one specimen, and the want of one part is often attended with the unnatural position of another,” &c.

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In the *first* class are the hare-lip, deficient urinary and generative organs, spina bifida, imperforate rectum, &c. In the *second*, diaphragmatic and umbilical herniæ. In the *third*, the acephalous cases, those in which the heart is found to be deficient, and other parts of the body, fingers, toes, &c., not essential to life. In the *fourth*, supernumerary fingers and toes, the Indian child with a double head, the skulls of which are preserved in the Hunterian Museum, united bodies, (Siamese twins, for example,) fetuses within the bodies of others of the same species. Examples of all these deviations are to be seen in all the public museums, and in most private collections—their existence is well established; but it is not an easy matter satisfactorily to account for their peculiar formation and character. Mr. L. views this subject under two considerations, *those which are, and those which are not capable of supporting life after birth*. He well observes, that,

“the vital powers in monsters do not seem adequate to maintain the comparatively simple existence of the fœtal state: if, however, they get over this danger, the hour of birth is generally with them the hour of death.”

That those deviations from the ordinary productions of nature are dependent upon any influence the mother can exert upon her offspring, is at this day hardly deserving of notice; but a refutation of this opinion may be found in Mr. L's paper, in which it is fully shown,

“that there is not a single fact even approaching to a proof, that the mother's imagination ever had any effect on the form of a child; that none of the numerous monsters resemble, in any essential character, the objects to which they are compared, and most of them, as the brainless and those without hearts, the double fetuses, those with redundant parts, as the two-headed, &c., correspond to no archetype in nature.

Every one must have observed the frequency of monstrous productions among brute animals, and that these chiefly occur in our domesticated animals. The influence of domestication on structure is particularly dwelt upon by Mr. L. in his lectures before alluded to, and he seems disposed to consider the monstrous productions which occur in the human species as dependent upon, or attributable to, something connected with our peculiar mode of existence, and that a kind of scale may almost be constructed as to the number and variety of deviations from the natural form and character, in proportion to the advancement in domestication or civilization—hence, man may stand at the top of the scale as to the frequency of deviation, and he is also subject to a greater number of complicated and severe diseases than any other being is afflicted with.

3. *A New Method of Tying the Arteries in Aneurism, Amputation, and other surgical operations.* (Vol. VI. p. 156.) This method consists in tying the vessels with very fine silk ligature, and cutting off the ends as close to the knot as is consistent with the security of the means. Mr. L.

has not found the presence of the knot or minute portion used to interfere with the process of adhesion, and is in the habit of employing this mode, not having met with any irritation or disturbance resulting from its use. To remove any impediment to the process of union by the *first intention* is certainly of the highest moment in surgery, and Mr. L.'s method would doubtless have been more generally adopted than it has been, but for the very natural dread of hæmorrhage by any accident to the ligature thus applied. Mr. L.'s paper contains the detail of a number of cases of various operations illustrative of the efficiency of the method of tying arteries proposed by him in this communication.

4. *Two Cases of the true Elephantiasis, or Lepra Arabum.* (Vol. VI. p. 209.) This is a joint account, given by Mr. L. and Dr. Southey. It is a disease of very rare occurrence in this country. An instance in a boy of English parentage was admitted into St. Bartholomew's Hospital in 1814, and another in a female, a native of Bombay, the daughter of an English officer by a Hindoo woman, was observed by Dr. S. in 1815. In the boy, (born in the United States,) the disease began in the head, and extended to the upper and lower limbs, leaving the trunk free of the affection. It commenced with small flattened tubercular elevations, gradually increasing to a large size. In colour and consistence at first they hardly differed from the healthy skin; but they soon assumed a red hue, which approached in some instances to a livid colour. In some parts they had small white scales on their surfaces, and some of the tubercles cracked and formed ulcerations, but these were neither deep nor extensive, but sufficient to form hard crusts upon the surface. The hairy scalp was not affected, but the membrane of the palate and the velum palati was tuberculated. No "femoral tumour," as described by Dr. Adams in the cases he observed at Madeira, existed in this instance; but an inguinal gland on each side was rather more distinct than usual. The developement of the generative organs was not only checked upon the breaking out of the disease, as stated by Dr. A., but they were withered and diminished. His general health, however, appeared but little affected. "Medicines were obviously inefficacious, to say the least." He was admitted into the hospital April 1, 1814, and was discharged February 2, 1815, the disease, after being for some time stationary, having begun to decline about the end of December—the ulcerations healed, and the tubercles disappeared. The skin recovered its natural colour, but the features were deformed by the numerous contractions occasioned by the healing of the ulcerated surfaces. With this amendment externally, there was reason to fear the progress of disease internally; he had cough, difficulty of breathing, &c., and became much emaciated. He appeared to labour under a pulmonary affection, of which his brother had died, and he was sent into Devonshire for a change of air.

5. *On some Affections of the Larynx which require the operation of Bronchotomy.* (Vol. VI. p. 221.) In this paper Mr. L. gives the detail

of two cases in which he has performed this operation for an affection of the larynx. He considers the first case to have been a spasmodic stricture of the glottis, caused by the irritation of disease in the lungs and pleuræ. The man was relieved from impending suffocation, and lived eight days after the operation, breathing with perfect ease, and entirely through the artificial opening. In the second case, the membrane of the chordæ vocales, sacculi laryngis, and front of the arytenoid cartilages was thickened and granulated, so as completely to shut the rima glottidis. The breathing was relieved by the operation; but it is feared that she died from obstruction to the passage of air into the trachea, by the excretion of viscid mucus which filled up the wound. Mr. L. attempted to remove a portion of the trachea, but the patient was averse to any thing further being done—she died on the second day after the operation. Mr. L. concludes his paper with references to the performance of this operation under different circumstances, which will be found useful to the surgeon, and point out the necessity of having recourse to it at an earlier period than that at which it is usually performed, and generally, therefore, with such an unsuccessful result. An *Appendix* to the paper contains the narrative of two cases, in one of which Mr. L. successfully employed the operation.

6. *Cases of Fungus Hæmatodes.* (Vol. VIII. p. 272. *Appendix*, p. 306.) The paper is by Mr. Langstaff, and will be noticed in a future memoir; but Mr. Lawrence has appended two cases, analogous to those described by Mr. Langstaff, which must here be referred to as examples of the extent to which this formidable malady may proceed.

7. *Further Observations on the Ligature of Arteries; to which is added a Case of Popliteal Aneurism.* (Vol. VIII. p. 490.) This paper is in continuation of that previously noticed. Extended observation of the practice enabled Mr. Lawrence to detect the separation of the ligature left upon the vessel, and its exit with the discharge from the wounded surface, or in cases where union by the first intention was more immediately effected, that they occasionally produced a trifling suppuration, and no painful inflammation, and that in others they remain quietly in the part. The case of popliteal aneurism is curious. It was mistaken for a large fleshy tumour. An abscess lancet was plunged into its softest part, but no fluid escaped. The limb was amputated, and the mass was found to be composed of firm coagula, not of the laminated kind usually found in aneurismal sacs, nor loose like that of recently coagulated blood. Mr. Lawrence concluded, that

“ the case had been originally a popliteal aneurism of the usual kind; that the sac had given way in front, so as to convert it from a circumscribed into a diffused aneurism, and thus to present the deceptive appearance of an immense sarcomatous tumour.”

8. *On Dislocations of the Vertebrae.* (Vol. XIII. p. 387.) Many surgeons have doubted the possibility of this kind of accident without

fracture, except in the case of the first two vertebræ of the neck. In Sir A. Cooper's extensive practice, he never witnessed an instance of the kind. Boyer and Delpech deny its existence. Professor Rust, of Vienna, however, affirms it to have occurred in his own practice, and he cites another to confirm his statement. Mr. Lawrence relates a case, in which the body of the fourth cervical vertebra was completely detached from the fifth, the connecting fibro-cartilage being torn through, and the body of the former projecting by its whole depth in front of the latter. The man survived four days. This paper gives also an account of dislocations of the cervical vertebræ arising from disease.

9. *On the Treatment of Nævi Materni by Ligature.* (Vol. XIII. p. 420.) Where nævus is of magnitude, it is frequently dangerous to employ the knife; and where it is small, it is always troublesome. Fatal effects have been known to follow the operation. Caustics have been recommended, but they are subject to objection if applied over an extensive surface. Mr. Abernethy adopted cold applications and pressure; but although, in some few instances, the plan has been successful, in the greater number it has decidedly failed. Mr. Anthony White proposed the use of the ligature. His plan is, to pass a needle armed with a double ligature through the substance of the nævus, and thus include with a noose each half of the tumor. By cutting off all supply of blood, the nævus has sloughed off. Mr. Lawrence has successfully employed this method in several cases.

10. *Observations on the Nature and Treatment of Erysipelas.* (Vol. XIV. p. 1.) This is a very long paper, extending through more than two hundred pages. The subject is one of great importance in surgery, and there is much diversity of opinion as to the treatment of the disease. Mr. Lawrence is an advocate for a strictly antiphlogistic plan, regarding it as essentially an active inflammatory affection. The principal object of this paper is to recommend the treatment of phlegmonous erysipelas by incisions. The occurrence of this disease in patients of weak habits, and in those often reduced by long-continued disease, have alarmed surgeons, and prevented their having recourse to the lancet, as the principal remedy in such cases; indeed, many have discarded its use altogether, and relied upon tonics and other means to support and invigorate the system. Under these opposite modes of treatment, success has followed, and the profession is still divided upon the subject. As there are various kinds and degrees of erysipelatous inflammation, so will a varied treatment be necessary. Mr. Lawrence marks these distinctions, and holds phlegmonous erysipelas to be the highest degree of the affection, involving the cellular and adipose membrane, as well as the skin, causing suppuration and mortification, and, therefore, needing the employment of the most active remedies at the very outset of the disorder. The great peculiarity of erysipelas, and that which distinguishes it from ordinary inflammation, is certainly its tendency to

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spread, and the manner in which this takes place. The rapidity with which the cellular membrane becomes involved in the disease, in cases of phlegmonous erysipelas, shows the necessity of adopting a vigorous mode of treatment, and my own practice leads me to give a decided preference to the method by incisions over all others—except in cases affecting the scalp, in which, the mode by puncture, recommended by Sir R. Dobson, is certainly productive of the most manifest advantage. Mr. L.'s paper will be perused with great interest, and may be regarded as the most complete account of erysipelas we possess, though there are still wanting some considerations, particularly those which relate to the question of its contagious character, to render the history perfect.

11. *Case of Phlegmasia Dolens.* (Vol. XVI. p. 58.) This is illustrative of the pathology of the disease advanced by Dr. D. Davis, Dr. Robert Lee, the late Dr. J. Sims, &c., and is to be regarded as supplementary to Dr. Lee's papers on the subject.

12. *History of a Case, in which, on examination after death, the Pancreas was found in a state of active Inflammation.* (Vol. XVI. p. 367.) Morbid affections of the pancreas are of rare occurrence, and Mr. Lawrence thinks that no pathologist has previously described inflammation of this gland. The scirrhus, or tuberculated condition of the organ, constitute the changes most frequently observed. Mr. L. has remarked, that the hardness so often met with in this organ, speedily subsides after death, and ought not, therefore, to be looked upon as a morbid condition.

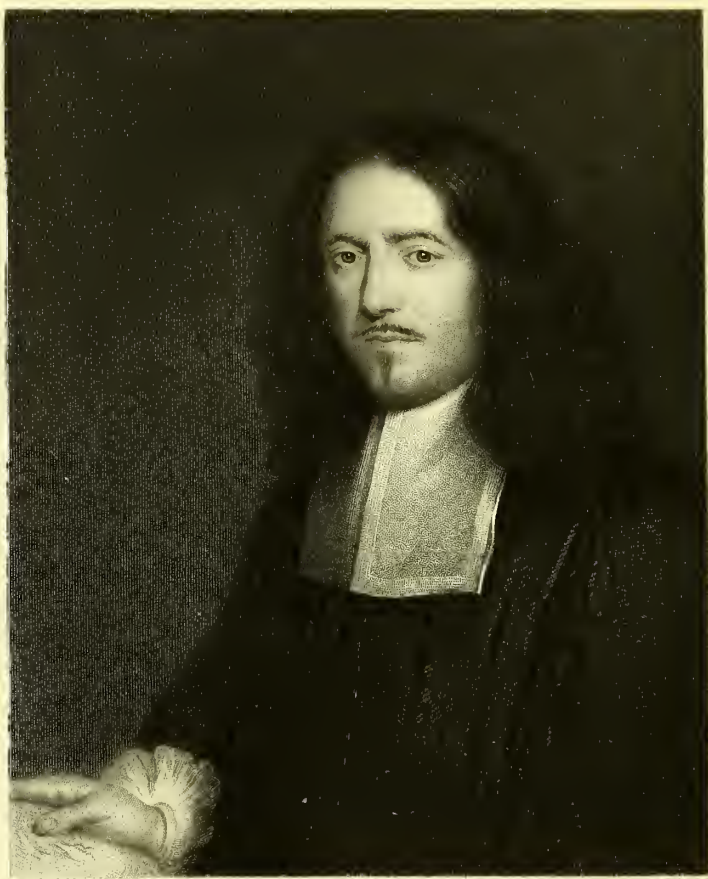
13. *Observations on Tumours with Cases.* (Vol. XVII. p. 1.) To the labours of Mr. Abernethy we are indebted for the first attempt at a philosophical classification of tumours, of the formation and history of which, we are so imperfectly acquainted. Dr. Baron's views have been detailed in his memoir. Mr. Lawrence pretends to no theory on the subject, which is full of difficulties. No definition hitherto given of tumours, has been deemed satisfactory. We must, therefore, attend to histories, collect facts, and, at some future period, this department of pathological science may be more fully elucidated. Mr. L. gives an interesting account of a large cellular tumour, which he, at two several operations, successfully removed. It did not contain one particle of adipose matter. He records some cases of tumours resembling what Mr. Abernethy called *pancreatic sarcoma*, situated in the neighbourhood of the salivary glands; and also, some cases to show the great difficulty in the diagnosis between innocent and malignant growths.

Mr. Lawrence's lectures on the Diseases of the Eye have been reported in the *Lancet*, and his lectures on Surgery in the same publication, and in the *Medical Gazette*. A course of clinical surgery has also, during the last winter, been recorded in the *Medical Gazette*, and continues to be published in that journal. This brief narrative will enable the public and the profession to estimate the ability of Mr. Lawrence. With his talents, it

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is impossible that such opportunities as have been recorded in this memoir, should not have tended to the advancement of medical science, and it is but bare justice to Mr. L. to say, that felicitously capable of communicating his knowledge, and attended by a large class of pupils, his endeavours have reaped due success in the formation of the character of those who are devoted to exercise the medical and surgical profession. It may, probably, be expected that I should notice the part Mr. L. took in 1826, in opposition to some regulations adopted by the Council of the Royal College of Surgeons. He presided at some public meetings at the Freemasons' Tavern at that time, and he published a corrected report of two speeches, delivered as chairman on the occasion. They gave great offence to the Council. The controversy related to grievances, the chief part of which have been redressed; and it is, perhaps sufficient, in the present place, merely to observe that, although the regulations of the College were fully open to the animadversions made in these speeches, yet that the general tone and manner of the remarks, with several of the particular expressions, were unsuitable and improper in a member of the College, and that a different mode of proceeding might have been more becoming, and more likely to attain the proposed end. I believe that no one is more sensible of this than Mr. L. himself, and being now a Member of the Council, he is furnished with ample means to use all his endeavours towards promoting the important objects for which the College was instituted.

It remains only to say, that Mr. Lawrence is a Member of several foreign Medical and other scientific societies, and that upon the formation of the household of Queen Victoria, he was appointed one of the Surgeons Extraordinary to Her Majesty.



Horatius Waltrighius

MARCELLUS MALPIGHI, M.D. F.R.S.

“Ducere verò classum multo pulcherrimum.”—QUINTILIAN.

MARCELLUS MALPIGHI, a celebrated Italian Anatomist and Physiologist, was born at Crevalcuore, near Bologna, March 10th, 1628, where he received instruction in Latin and Physiology; and being left, by the death of his parents, to his own discretion, at the age of twenty-one he made a selection of Medicine for his profession. In this choice he appears to have acted in conformity with the advice of his friend and counsellor, who was also his teacher in philosophy, the Professor Franciscus Natalis. From this period his studies were directed to physic, and on April 6th, 1653, he took his Doctor's degree. The University of Bologna, at this time, enjoyed great reputation as a school of medicine, and Malpighi greatly distinguished himself under the instructions of his teachers, Bartholomew Massari, and Andrew Mariano:—the former had a school for dissection in his own house. The *Thesis* sustained by Malpighi on the occasion of taking his degree, was in defence of the opinions and system of Hippocrates, which then was regarded as a bold procedure, for the doctrines of the Arabian schools were those chiefly entertained and professed. In 1655, his friend and teacher Massari died. This afflicted him severely, for he not only suffered the loss of a faithful friend, but also of a relation, having become connected with him by a marriage with his sister. Malpighi obtained a professorship in 1656, which he held, however, but for a short time, being invited to Pisa by Ferdinand II. the Grand Duke of Tuscany, the brother of Cardinal Leopold de Medici, who was very desirous of encouraging the arts and sciences in his dominions; and there Malpighi was appointed Professor of Physic. At this University he formed an acquaintance with the celebrated Borelli, renowned for his researches, and advocacy of the mechanical philosophy. From the discourses of the mathematician, Malpighi is said to have felt the superiority of experimental researches, over those which may be regarded as purely metaphysical. To the instructions of Borelli, Malpighi has often avowed, was owing entirely all the discoveries he had made. These philosophers laboured together with great assiduity, made numerous dissections of animals, and ascertained the muscular fibres of the heart to be of a spiral form; a discovery which has been solely ascribed to Borelli in his posthumous works.

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The climate of Pisa was unfavourable to the naturally delicate health of Malpighi, and he was compelled to withdraw from the University, after a residence of three years. He returned to Bologna, to resume his former duties; but, in 1662, again quitted it for Messina, to succeed Peter Castelli, the first professor of physic, who was recently dead. The emolument attached to this appointment was considerable; but Malpighi was unwilling again to quit Bologna, nor could he be induced even to accept of the appointment, but by the entreaties of Borelli, who urged him to the step. He held, however, the Professorship only four years, returning to Bologna in 1666. The senate of Messina, by their Secretary, Nic. Ant. Ferrara, entreated him to continue with them; but the persecutions he had endured from the adherents to the ancient doctrines, and their blind attachment to the dogmas of the schools, the jealousy of his colleagues, and the numerous controversies in which their disputes involved him, determined him to retire to Bologna, and, taking up his residence at a villa in its vicinity, he there, as Persius beautifully expresses it,

“ ——— Modicus voti, presso lare, dulcis amicis,”

prosecuted those anatomical and physiological inquiries, by which he has become so well known to future ages. His reputation spread widely; and upon a proposition made at a meeting of the council of the Royal Society of London, March 1st, 1668, by Mr. Oldenburg, one of the secretaries, Malpighi was elected an Honorary Member. A copy of the diploma, signed by the President Brouncker, is given in his life prefixed to the “Opera Posthuma.” Malpighi appears to have been very sensible of this honour, and much flattered by the distinction. The memoir of his life, written by himself, is addressed to the President and Fellows of the Royal Society. He maintained a constant correspondence with the Society—communicated to them the results of his researches—announced to them his discoveries, and presented to them his portrait, painted by Tabor, from which, by the obliging permission of the Council, I am enabled to present the accompanying engraving, the only one of this celebrated anatomist, as far as I know, that has ever been executed. The character of this portrait agrees with the description given of Malpighi, who is described as being of a serious and melancholy temperament. It is a countenance highly intellectual, and, as a work of art, the picture is of no mean importance. There are many letters and papers by Malpighi, preserved in the archives of the Royal Society, and there are also the original drawings from which the plates were executed, which accompany his works on the Anatomy of Plants, and the Incubation of the Chick.

Malpighi was not destined to remain at Bologna, for his reputation having reached various states, and the discoveries (presently to be noticed) made by him in anatomical science, the Cardinal Antoine Pignatelli, to whom he was known during the time the Cardinal was legate at Bologna,

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upon being chosen Pope, in 1691, (whereupon he assumed the title of Innocent XII.) immediately sent for Malpighi to Rome, and appointed him his chief Physician and Chamberlain. But the health of Malpighi was in a very declining state, and he had become much enfeebled by repeated attacks of gout and nephritic affections. On the 25th of July, 1694, he had a fit of apoplexy at the Quirinal Palace, by which he lost the use of one half of his body, and in this miserable paralytic state he lingered until the 29th of November in the same year, when death released him from his sufferings. Mr. John Bell reports that two pounds of coagulated blood were found in the ventricles of his brain, by Baglivi.

Thus died Malpighi, in the 67th year of his age. In the last year of his life, he had been admitted into the Academy of the Arcadians at Rome. In 1683, he received from the University of Bologna a most flattering mark of the regard entertained for his talents and services, in the composition of an eulogium in Latin, which was engraved on marble, and placed in one of the public schools of the University. The remains of Malpighi were embalmed, and conveyed to Bologna, and there interred with great pomp and all funeral honours, in the Church of St. Gregory, where a statue is erected to his memory. The year preceding his death, a medal in bronze was struck at Rome, on one side of which was the head of Malpighi, and on the reverse, a design indicative of the science of botany, and the assistance it had received by the use of the microscope, in reference to the researches of Malpighi.

Malpighi is known to the world by his discoveries in the animal and vegetable kingdoms of nature. All were made on the sure ground of experience and observation. He was contemporary with Harvey, Redi, Rudbeck, and Bartholin, and lived at a time when nature began to be studied, rather than books; and his efforts to establish physiology upon a true basis, cannot be too highly applauded. He is entitled to the distinction of being "an original as well as a very profound observer." He carried his inquiries into the most minute and delicate parts of the organization of animals and plants, and the truth and value of many of his discoveries are very generally admitted at the present time. To notice his works in the order of their appearance, it is necessary to allude to—

1. *Observationes Anatomicae de Pulmonibus, Bonon.* 1661, folio. These consist of two epistles addressed to Borelli. The work was again published at Copenhagen in 1663, in 8vo., together with the treatise of Bartholin on the same subject; at Leyden, in 1672, in 12mo.; and at Frankfort in 1678, 12mo. It is also to be found in the collection of Mangetus. This work contains the first published researches made into the structure of the lungs, by the employment of the microscope; and in the second epistle, he states the manner in which he observed the circulation of the blood by means of this instrument in the membranous parts of the lungs, and in the mesentery. This, it must be recollected, is thirty-

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seven years previously to Leuwenhoek's experiments being made. Malpighi also gave information relative to the nature of the crassamentum, which he states consists of white fibrous substance united to a red colouring matter, and he saw the red particles which Leuwenhoek afterwards so particularly observed and described. Malpighi gives a very good description, and a plate illustrating it, of the arrangement of structure, by which the lungs are enabled to transmit the air, so that it shall have the means of acting upon the blood in its transit through these organs. The objections brought against his opinions on this subject, by Sir George Ent, Swammerdam, Willis, Borelli, Mini, and others, are replied to by Malpighi in his "Opera Posthuma."

2. *Epistolæ Anatomicæ: De linguâ, de cerebro, de externo tactûs organo, de omento, de pinguedine et adiposis ductibus. Bononiæ, 1661-65. 12mo.* Also at Naples, 1663; and at Amsterdam, in 1667. This work records the discovery of the RETE MUCOSUM. That portion of the structure of the skin usually known under this denomination, was first demonstrated by Malpighi. It has frequently been called the *Rete Malpighii*. He described it as consisting of a structure of soft matter, disposed in the form of fibres, crossing each other in various directions, and situated between the epidermis and the cutis, being an intermediate layer between the cuticle and the true skin. The reticulated structure of this substance has been denied by Blumenbach, and other authorities, by whom it has been looked upon merely as soft pulpy matter. Bichat looked upon it as a mere net-work of delicate blood-vessels, which having passed through the true skin beneath, was branching off in innumerable ramifications on the surface. He did not regard it as entitled to the appellation of a membrane at all. Former anatomists, of great eminence, however, had considered it in this light, and among the illustrious names who entertained this opinion, it may be sufficient for the present purpose to name those of whom this work has already given an account, Albinus and Ruysch. More modern anatomists have likewise maintained the accuracy of Malpighi. Cruikshank, who devoted great labour to the anatomy of the skin, never doubted its existence as a membrane; and as in this part the colouring matter was supposed to be resident, and as the thickness of this substance was necessarily in relation to the colour of the individual, so in the negro it is said to admit of demonstration. Professor Müller, of Berlin, admits the rete of Malpighi, recognizes it as the soft layer of the epidermis, and states it to contain, in the negro, coloured vesicular bodies. The opinion as to the rete mucosum being the seat of the colour of the skin, was put forth by Malpighi. The colour is certainly not dependent upon that of the blood circulating in the skin, for that is the same in the natives of all climates. Whence, then, is derived the copper-colour of the aboriginal American, the yellow of the Chinese, the black of the Negro, or the different shades approaching to whiteness in the European? The necessity of some body

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in which this should be resident, seems manifest; but it has not hitherto been satisfactorily shown.

3. *De Viscerum Structura, exercitationes anatomicæ; accedit dissertatio de Polypo Cordis.* Bonon. 1666, 4to. Also at Amsterdam and London in 1669, 12mo; and at Frankfort in 1678, 12mo. It has been translated into French by Sauvalle, and printed at Paris, 1683, 12mo. The polypi here alluded to and described, consist of those masses of coagulable lymph which are frequently found in the auricles and ventricles of the heart where death has been very gradually produced. Malpighi's work contains a chemical analysis of the blood, the best that had been made up to his time; and he inferred that the polypi, the pleuritic adhesions, and the fibrous part of the blood, were of the same nature.

4. *Dissertatio Epistolica de Formatione Pulli in Ovo.* Lond. 1666 and 1673, 4to. Translated into French, Paris, 1686, 12mo; Geneva, 1685, folio. These researches are principally illustrated by the aid of the microscope, and his examinations into the developement of the chick in the egg must be admitted to have added much to the dissemination of real knowledge in his day upon the subject. From the following extracts, taken from the minute-books of the councils of the Royal Society, this work would appear to have been published at the expense of the Society:

"June 12, 1672. Ordered, That Mons. Malpighi's book, intituled, *Marcelli Malpighii Phil. et Medici Bononiensis, Dissertatio Epistolica de Formatione Pulli in Ovo*, be printed by the printer of the Royal Society, and the form of the license to be as forthwith: Junii 12, 1672. In Concilio Regiæ Societatis Londini ad Scientiam Naturalem promovendam institutæ TRACTATUS, cui Titulus, &c. (This is signed by the president, Brouncker.) Nov. 13, 1672. Ordered, That what copies of Sig. Malpighi's book, *De Formatione Pulli in Ovo*, the printer will not furnish for the Author gratis, shall be paid for by the Society, who lately ordered 30 copies of it to be sent to Bononia for the said Author."

5. *Dissertatio Epistolica de Bombyce.* Lond. 1669, 4to. At Paris, (in French,) 1686, 12mo. His inquiries into the anatomy and transformations of the insects, particularly of the silk-worm, are worthy of the high character and reputation of the author.

6. *Anatome Plantarum cum Appendice de Ovo Incubato.* Lond. 1675-1679. 2 vols. folio. Another edition in 1686. This work was addressed to the Royal Society. By the microscope, Malpighi may here be said to have been one of the first to observe and establish the sexual difference in plants. He made inquiries into the structure and composition of the component parts of vegetables, upon which very little was known previously. He even notices their diseases, the formation of galls, &c. Both Malpighi and Grew laboured at the same time to exhibit the minute structure of plants, and many of their observations remain undisputed at the present day. A few, and we cannot but be struck with the paucity of their number, considering the difficulties attendant upon the subject, have been

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disproved, and the most important of these merits attention. These vegetable physiologists erroneously conceived that the sap was transmitted by the woody fibres of the plant; although, by the microscope, they were unable to detect the channels by which the cause was maintained. The merits of Malpighi in illustration of the organization of the vegetable kingdom has been acknowledged by Plumier, who named a genus of plants of the class and order of Decandria Trigynia after him. Linnæus describes nine species of the genus; but thirteen are introduced into the Hortus Kewensis, and twenty in Wildenhow. The fruit of the "Malpighia," a species of cherry, is gathered promiscuously in the West Indies, and eaten there; it has a pleasant acid flavour. The employment of the microscope in examining into the structure of plants led Malpighi to investigate the formation of bone, and he is to be considered as the first to show that the basis of this structure consisted of an animal matter so disposed as to correspond in appearance with that of cellular substance.

7. *Opera Omnia*. Lond. 1686-7. 2 vols. folio; and Lugd. 1687, 2 vols. 4to.

8. *Epistola de Glandulis Conglobatis*, Lond. 1689, 4to.; and Lugd. 1690, 4to. Of the intimate structure of glands, there has been considerable controversy, and the real condition of these organs scarcely appears to be definitively settled at the present day. The microscope must be resorted to, to determine these points. Malpighi, as has already been remarked, was one of the first of physiologists to employ its aid in determining questions of minute anatomy, and his statements have, in general, been found to be based in truth and accurate observation. In extending his researches into the glandular system, he remarked, that the immediate organ of secretion appeared to be in all cases a cavity or a follicle. The minute injections of Ruysch, disposed him to consider the precise organs of secretion to be in the termination of the artery, bringing the blood, the material for the secretion, into the mouth or commencement of the excretory duct, or that canal by which the secretion, when elaborated, should be carried off: Malpighi, it will be seen, contends for an intervening organ, whilst Ruysch does not admit of the existence of any such apparatus. The opinions of Malpighi stood undisputed from 1665 to 1696, when Ruysch published his remarks upon the subject. Haller coincides with Ruysch, and he gives, in his *Elementa Physiologiæ*, vol. vii., a very full account of the successive steps in the discussion—a discussion which, in an extraordinary degree, excited the attention of anatomists and physiologists, towards the close of the seventeenth and commencement of the eighteenth centuries. Malpighi's opinions are to be found in the work now noticed; also in the *Exercitat. de Viscer. struct. cap. 2, 3*, containing an account of the liver, and in the *Opera Posthuma*, p. 101. But the methods by which secretion is effected, varies according to the parts by which it is performed, and Dr. Young enumerates among the different

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structures by which this operation is performed: exhalent vessels, tubular glands, conglomerated glands, follicles, pores, parenchymatous glands. (*Medical Literature*, p. 110.) And we know that in many organs the glandular apparatus is much more simple than in others. But the whole process of secretion must be looked upon as a mystery, to unravel which, is no easy task—yet the difficulties ought rather to excite than depress all attempts made to detail its real nature and condition.

“ Ipsa denique utilissima est exercitationis difficultas.”—QUINTILLIAN.

Müller has shown that Malpighi's theory was founded on good general views; but that he was in error somewhat as to the details. Perfection, however, is not to be looked for in the earlier period of so elaborate an inquiry, and of his labours, with respect to the structure of the glands, it may fairly be said, that it is something to proceed thus far, if it is not permitted to go further:

“ Est quoddam prodire tenuis si non datur ultra.”—HOR.

The essential elementary parts of the compound glands, were unknown to him, and each of the parts described by him as follicles, have been found to consist of an aggregate mass of many of the more minute real elementary parts. There is no doubt that the injections of Ruysch extravasated, and that the conclusion he drew from them was erroneous. Müller's injections have demonstrated this, and he, therefore, holds the theory of Malpighi as correct, although he was unacquainted with the true glandular elements. The great truth established by Malpighi is, that all the terminal branches of the ducts have closed extremities.

9. *Opera Posthuma cum Vita à Seipso scripta*, edited by P. Regis, Professor at Montpellier. Lond. 1697, fol. Also at Amsterdam, in 1698, and in 1700, in 4to.; at Venice, 1698, and in 1743, folio. The life is written to the year 1691, at the time he was appointed to Pope Innocent XII. A note giving the date of his death, and the disease of which he died, is added by the editor.

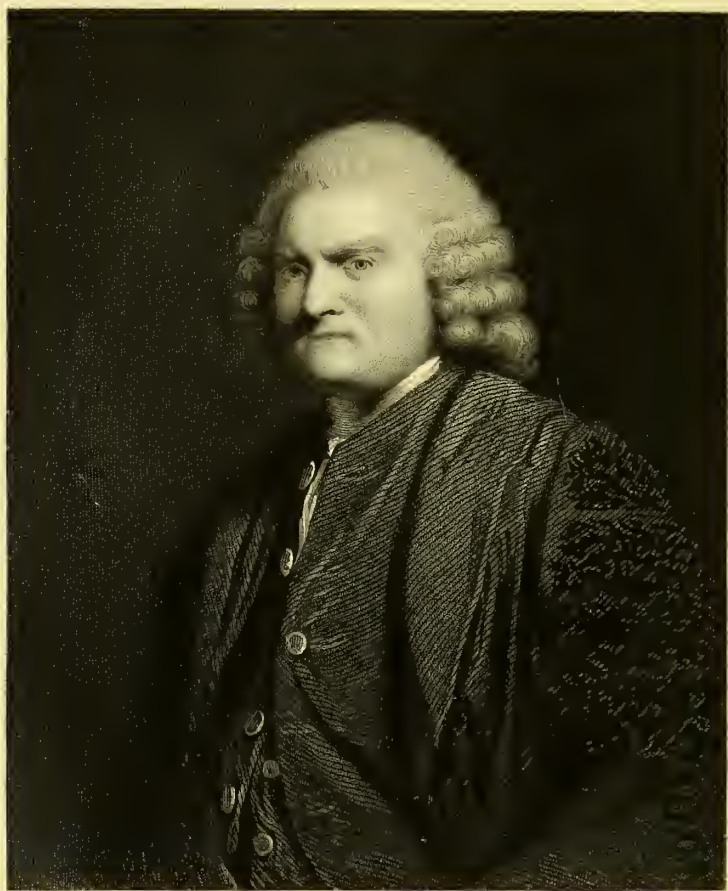
10. *Consultationum Medicinalium Centuria Prima*. Patav. 1713, 4to. This was published by Jer. Gaspari, a physician at Verona. Also at Venice, in 1748, with the Consultations of Laireisi. The matter contained in this work, does not place the practical character of Malpighi in a very prominent light. His attention was principally directed to anatomical and physiological inquiries, and clinical medicine does not appear to have been much studied by Malpighi. He has, however, the merit of pointing out the mischief arising from bleeding in the malignant epidemics prevalent in Italy during his practice.

Besides these distinct publications, Malpighi made communications to the Royal Society; and in the Philosophical Transactions, notices of these are to be found. In the second volume, (p. 491,) is, “ *An Account of some Dis-*

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coveries concerning the Brain and the Tongue, made by Signor Malpighi, Professor of Physic in Sicily." And in the same volume, (p. 552,) "*An Observation about the Epiploon, or the Double Membrane, which covers the Entrails of Animals, and is filled with Fat.*" In the sixth volume, (p. 2149,) is, "*An Extract from a Latin Letter written by Malpighi, concerning some Anatomical Observations about the Structure of the Lungs of Frogs, Tortoises, &c., and perfecter animals; as also the Texture of the Spleen, &c., dated Bononiæ, 20th Feb. 1671.*" In the fourteenth volume, (p. 601,) for January 1684, is a Latin letter addressed to Dr. James Spon, "*concerning a Horn hanging at the Neck of an Ox; as also concerning a Kidney of an unusual shape and texture, with some Observations concerning Horns and Glandules in general.*" In the same volume, (p. 630,) is, "*A Letter to Dr. Spon, concerning the Structure of the Womb, &c.*"

The notice thus given of the labours of Malpighi, shows him to have been zealous in the promotion of science, and a considerable benefactor to physiological knowledge. His contemporaries have described him as a man no less distinguished by his philosophical zeal, than by his singular modesty.



John Pringle

SIR JOHN PRINGLE, BART. M.D. F.R.S.

ETC. ETC. ETC.

“Vir illustris—de omnibus bonis artibus benè meritus.”

HALLER *Bibl. Anat.*

THE subject of the present memoir was a native of North Britain, being born at Stichel House, in the county of Roxburghshire, on the 10th of April, 1707, and descended from an ancient and honourable family. Having acquired the rudiments of his education under a private tutor, he was sent to the University of St. Andrew's, studying particularly under the care of a relative, Mr. Francis Pringle, who, at that time, was Professor of Greek in the College. Thence he removed to Edinburgh, in October, 1727, where, however, he only remained one year. Mr. James Boswell, the biographer of Dr. Samuel Johnson, who was on terms of intimacy with Sir John Pringle, says that he went to Amsterdam for the purpose of devoting himself to mercantile pursuits; but, that being at Leyden, he accidentally heard a lecture on medicine, by the celebrated Professor Boerhaave, which determined him to attend to physic. He, therefore, entered under this teacher, and diligently cultivated the necessary branches of professional education. He formed a close intimacy with Gerard Van Swieten, the commentator on Boerhaave, and took his degree of M.D. at Leyden, July 20th, 1730; delivering as his thesis on the occasion, a dissertation, “*De Marcore Senili.*” This is dedicated to Dr. Francis Pringle, President of the College of Physicians, Edinburgh, and Mr. F. Pringle, Professor of Greek. He perfected his medical studies at Paris, and thence returned to Edinburgh, where he settled as a physician, and was held in much esteem by the Professors of the College and the magistrates of the city, for his abilities, good conduct, and the attention he paid to his profession, and to the subjects of natural religion and morality.

On the 28th of March, 1734, he was nominated to a singular appointment by the magistrates and council of Edinburgh—that of joint Professor of Pneumatics and Moral Philosophy with Mr. Scott, during Mr. S.'s life, and afterwards to the entire professorship; and, on this day, he was admitted a Member of the University. He annually delivered lectures on

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the immateriality and immortality of the soul, and zealously performed the duties of his office.

In 1742, he was made physician to the Earl of Stair, who was in command of the British army in Flanders, whither Pringle removed, and there had the care of the Military Hospital, receiving a salary of twenty shillings *per diem* whilst on service, and being entitled to half-pay during his life. Hence arose his work on the diseases of the army, by which, as a medical practitioner, he is principally known. It was during Dr. Pringle's connexion with the army, that an arrangement was made most interesting to humanity. It was usual, upon the approach of the enemy, to remove the sick to a considerable distance from the camp, so that many soldiers were lost before they could receive any assistance from the medical staff. The Earl of Stair proposed to the Duke de Noailles, who commanded the opposing army, that the hospitals on both sides should be considered as sanctuaries for the sick, and mutually protected. This was immediately acceded to, and the terms of the agreement were rigidly enforced.

Dr. Pringle remained in Flanders during the campaign of 1744, and by his conduct attracted the regard of the Duke of Cumberland, who, on March 11th, 1745, honoured him with a commission, by which he was appointed Physician General to his majesty's forces in the Low Countries, and the parts beyond the seas; and another, by which he was also made Physician to the Royal Hospitals in the same countries. Upon receiving these, he resigned his professorship at Edinburgh, the duties of which had been performed in his absence, by Messrs. Muirhead and Cleghorn. In the same year, however, he was sent with the forces against the rebels in Scotland. After the battle of Culloden, he remained with the army until August 1746, and in 1747 and in 1748, he was again with the troops abroad, and did not return to England till the conclusion of the treaty of Aix-la-Chapelle. He now took up his residence in London, and, in 1749, was appointed Physician in Ordinary to the Duke of Cumberland, but he did not become a licentiate of the Royal College of Physicians until the 5th of July, 1758.

In 1742, he printed a paper in the fifth volume of the Edinburgh Medical Essays and Observations, entitled, *Vitrum Antimonii ceratum, a specific Medicine in the Dysentery*. This composition was long regarded as a specific for the cure of this disease; like many others, however, it has fallen into disuse, various preparations being found to be more beneficial in the relief of this condition. Several testimonies to the efficacy of the medicine by various practitioners of eminence, are appended to the communication.

In 1750-51 and 52, he presented to the Royal Society, into which he had been elected a Fellow, October 30th, 1745, seven papers, containing the account of *Experiments on Substances resisting Putrefaction*. Three of these were printed in the Philosophical Transactions, (Vols. 46, 48,) and

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the remainder were added to them, and printed separately, as an appendix to his work on the Diseases of the Army. For these papers, the President and Council of the Royal Society awarded to him the Copley medal.

In 1750, he put forth *Observations on the Jail or Hospital Fever*, in a letter addressed to Dr. Mead, in consequence of the appearance of this disease in the prison of Newgate. It was a hasty performance, occasioned by the great anxiety entertained on the subject. The public mind was much alarmed by the direful effects arising from the assembling of several criminals in too close and crowded a place, by which the lord-mayor, Sir Christopher Pennant—two of the judges, Sir Thomas Abney and Baron Clarke—one of the aldermen, Sir Daniel Lambert, and many other persons, amounting to upwards of forty, lost their lives from the contagious effluvia dissipated during their attendance at the sessions at the Old Bailey. This letter gives an account of the distemper, its mode of treatment, and the best means of prevention. Dr. P. strongly recommended the employment of ammonia in these cases, which, at this period, was considered as remarkable, where “manifest signs of putrefaction” had appeared. He has the merit of having shown it to be a powerful antiseptic. The “Observations” were afterwards corrected and amended, and printed in his work on the Diseases of the Army.

In 1752, the first edition of *Observations on the Diseases of the Army*, made its appearance. It was reprinted in the ensuing year, and has gone through many editions, the last of which bears the date of 1810. This duration of the work is a good proof of its value. It was much esteemed abroad, and has been translated into the French, Italian, and German languages. It is rather remarkable, that no general account of the diseases incident to armies should be found in the writings of any of the ancient physicians. If we except some particular relations given by Xenophon, Pliny, Plutarch, Livy, and Diodorus Siculus, we really possess nothing on the subject until modern times, and Sir John Pringle’s work must be considered as taking the lead in this branch of professional inquiry. By the assistance of a journal, containing a careful record of observations, he has laboured to trace the causes of military disorders as dependent upon particular conditions of the air, peculiarities of diet, &c. He has judiciously considered the effects of short or long campaigns upon the health, and the period of the year at which they are undertaken; amassing much valuable information, to the officers and to the medical staff, to whom the latter portions of his work are particularly addressed, as containing directions for the treatment of the several diseases included in his history. The work gives an account of the endemic diseases of the Low Countries, and those with which the British troops were affected whilst in garrison in Flanders, in cantonments in Germany, or in the field during the several campaigns of the war. It gives the result of Dr. Pringle’s experience, and shows that his attention was well directed to the history of the diseases as connected with

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the condition of the weather. The improvements introduced into military practice may, perhaps, fairly be dated from the appearance of this publication. The reputation this work had secured for him made him determine to quit the army, and devote himself entirely to private practice. He was made Physician to the Queen's Household in 1761, and in 1763 Physician Extraordinary to the Queen. He was elected a Fellow of the College of Physicians in the same year, and in 1764, upon the death of Dr. Woolaston, he was made Physician in Ordinary to the Queen. In 1766 he was raised to the dignity of a Baronet, and in 1774 he was appointed Physician Extraordinary to the King. He was also Physician in Ordinary to the Princess Dowager of Wales. Sir John Pringle received various marks of distinction from foreign academies, being chosen a Member of the Academy of Sciences at Haarlem, and of the Royal Society of Göttingen.

Dr. Pringle's papers on Substances resisting Putrefaction, read before the Royal Society, have been already mentioned. He contributed several other papers to the Philosophical Transactions. In 1753 he gave *An Account of several Persons seized with the Gaol Fever working in Newgate; and of the manner in which the Infection was communicated to one entire Family*;* also, *A Remarkable Case of Fragility, Flexibility, and Dissolution of the Bones*;† in which all the osseous system was affected, so that the bones offered little or no resistance to the knife, and the height of the individual was reduced to two feet two inches.—*A Letter upon an extraordinary Agitation of the Waters*.‡—*An Account of the Earthquakes felt at Brussels*.§—*An Account of the Agitation of the Waters on the 1st of Nov. 1756, in Scotland and in Hamburg*.||—*An Account of the Case of the late Rt. Hon. Horace Lord Walpole*.¶—*An Account of the Virtues of Soap in dissolving the Stone*.**—*Some Remarks upon the several Accounts of the Fiery Meteor which appeared on the 26th of Nov. 1758, and upon other such Bodies*.††

The foregoing papers will show the interest Sir John Pringle took in promoting the objects of the Royal Society. He had been on four several occasions elected into the council, and in 1772 he was chosen President of that learned body. At this time the spirit for experimental investigation was pursued with considerable ardour. Sir John Pringle fostered this spirit in every possible way, and was most zealous in obtaining papers for the Society, and in stimulating the members to increased exertion. He was the first President of the Society to deliver an extended discourse upon the assignment of the Copley Medal to such Fellows as should have furnished the best experimental paper during the year, according to the will of Sir Godfrey Copley. These *Discourses*, six in number, were collected together and arranged for the press by the author, to be published after his death,

* Phil. Trans. Vol. XLVIII. p. 42.

† Phil. Trans. Vol. XLIX. p. 360.

¶ Vol. L. p. 205.

‡ Ibid. p. 297.

§ Ibid. p. 546.

** Ibid. p. 221.

|| Ibid. p. 550.

†† Vol. LI. p. 259.

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and they were made public in 1783 by the Rev. Dr. Kippis, and prefaced by an Account of the Life of the President. The subjects of these Discourses embrace the particular consideration of the branch of science for the experiments on which the medal was bestowed, and the following is the list of those so honoured during the presidency of Sir John Pringle:

1. To the Rev. Joseph Priestley, LL.D., for his *Observations on Different Kinds of Air*.
2. To Mr. Walsh, for his *Observations on the Torpedo*.
3. To the Rev. Nevil Maskelyne, Astronomer Royal, for his *Observations made on the Mountain Schellien, for finding its attraction*.
4. To Captain James Cook, for *An Account of the method he had taken to Preserve the Health of the Crew of his majesty's ship the Resolution, during her late Voyage round the World*.
5. To Mr. John Mudge, for his *Directions for making the best Composition for the Metals of Reflecting Telescopes, together with a Description of the process for grinding, polishing, and giving the great speculum the true parabolic form*.
6. To Mr. Charles Hutton, for his paper on *The Force of fired Gunpowder, and the initial Velocity of Cannon-Balls, determined by Experiments*.

The whole of these Discourses reflect great credit upon Sir John Pringle, for they exhibit his acquaintance with the history of the various branches of philosophy embraced by them.

In 1778, being then in his seventy-second year, he sustained an injury from a fall, by which his health and spirits became much affected, and he resolved to retire from the chair of the Royal Society. He was succeeded by the late Sir Joseph Banks, Bart.

The natural love entertained by all for the place of their birth operated upon Sir John Pringle towards the close of his life, and in 1780 he paid a visit to Edinburgh, and purchased a house, to which he retired in the ensuing year. His spirits, however, were not cheered by his change of residence—his old friends and contemporaries had gone before him, and he was not in a state to form new connexions. He found also that the northern climate was too sharp for his now enfeebled frame, and he returned to London, leaving, as a memento, to the Royal College of Physicians of Edinburgh, ten folio volumes of MS. medical and physical observations. He resumed his Sunday evening conversazioni, and his chief delight was in the company of a few select friends, who had formed themselves into a society, and held their meetings at the house of a Mr. Watson, a grocer, in the Strand. The society consisted of Lord Charles Cavendish, Mr. Cavendish, Dr. Ross, (bishop of Exeter,) Dr. Heberden, Dr. Watson, Sir George Baker, Dr. Richard Saunders, and a few others of well-known talent. At one of these meetings he was seized with a fit, from which he never recovered. He died on the 18th of January, 1782, being then in the

SIR JOHN PRINGLE, BART.

seventy-fifth year of his age. He was interred in the church of St. James, Westminster, and a monument by Nollekens was erected to his memory in Westminster Abbey.

By his profession he had acquired a very handsome fortune, and in the exercise of his duties he was ever remarked by his liberality to, and regard for, the poor. He was a perspicuous and accurate writer—his descriptions are distinguished by their propriety of expression and attention to style. Dr. Kippis tells us he had no relish for poetry; but he was fond of music. He paid considerable attention to divinity, and corresponded with the celebrated Michaelis, who addressed to him some Letters on Daniel's Prophecy of the Seventy Weeks. These he caused to be printed.* He was distinguished by his integrity and sobriety. He was rather dry and reserved in his manners, but firm in his friendships. He maintained an extensive correspondence with scientific foreigners, and it is to be regretted that he destroyed all his letters a short time before his decease. I have already noticed the professional appointments Sir John Pringle held in connexion with the court, and enumerated some of the collegiate and academic bodies to which he was attached. In addition to these, it may be stated, that he was a Fellow of the Society of Antiquaries; a Member of the Royal Academy of Sciences of Madrid; of the Royal Academy of Medical Correspondence of Paris; of the Imperial Academy of Sciences of Petersburg; of the Royal Academy of Sciences of Paris, being elected Foreign Associate upon the death of Linnæus; of the Royal Academy of Sciences and Belles Lettres at Naples; of the Agricultural Society of Amsterdam; of the Antiquarian Society of Edinburgh, and of that of Cassel; of the Medical Society of Hanau, &c. &c.

The Portrait which accompanies this Memoir is taken from a painting by Sir Joshua Reynolds belonging to the Royal Society. I am indebted to the Council for their permission to have it engraved.

* “ Joannis Davidis Michaelis, Prof. Ordin. Philos. et Soc. Reg. Scient. Goettingensis Collegæ, Epistolæ, de LXX Hebdomadibus Danielis, ad D. Joannem Pringle, Baronettum: primò privatim missæ, nunc vero utriusque consensu publicè editæ. Lond. 1773. 8vo.



Portrait of a man

— 1888 —

ANDREAS VESALIUS.

“ Philosophers say, that man is a microcosm, or little world, resembling in miniature every part of the great : and, in my opinion, the body natural may be compared to the body politic : and if this be so, how can the Epicurean’s opinion be true, that the universe was formed by a fortuitous concourse of atoms ; which I will no more believe, than that the accidental jumbling of the letters of the alphabet, could fall by chance into a most ingenious and learned treatise of philosophy.”

SWIFT.

THERE is not a name of greater renown in the record of professional characters, than that which is placed at the head of this article. The subject of it, ANDREW VESALIUS, was a native of Brussels, but the precise year of his birth is somewhat uncertain, being stated as April 30, 1513, and December 31, 1514. Boerhaave and Albinus give the latter date from an inscription upon one of his portraits, and are so minute as to state it to have taken place about five o’clock in the morning:—*dodrante post quintam matutinam*. His family, belonging to the city of Vesel, in the duchy of Cleves, is celebrated for the number of eminent medical men derived from it. His great-grandfather, John Vesalius, was physician to Mary of Burgundy, wife of Maximilian I. ; his grandfather, Edward, wrote Commentaries on some of the Aphorisms of Hippocrates, and on the writings of Rhazes ; and his father was apothecary to the Archduke, afterwards Emperor Charles V. The passion for anatomy, by which Andrew Vesalius became so well known, manifested itself at a very early period, for whilst acquiring his general education at Louvain, where he attained to a great knowledge of the Greek and Latin languages, and other branches of scholastic education, he was found amusing himself by the dissection of rats, moles, dogs, cats, &c., and in making observations on the various parts of their bodies. He passed from Louvain to Cologne, and thence to France, where he resided at Montpellier. His principal teacher was James Sylvius, or Jacques de la Boe, at Paris, but he also studied under John Fernelius and Guinther, of Andernach. Human anatomy, at this period, could scarcely be said to be cultivated as a science ; the practice of dissection was regarded as unlawful and impious, the knowledge of the schools was looked upon as sacred, and no one dared to question the validity of the received doctrines of the ancients. In this state of things, in which the human intellect was so hideously trammelled, it

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is astonishing that such advances in anatomical science should have been made, and these were solely attributable to the energy of one man.

The work of Vesalius, *De Humani Corporis Fabrica*, was composed by him at a very early age; and it is not going beyond the limits of truth and correct observation to say, that its pages may, for several particulars, be consulted at the present day with advantage. Hippocrates has been styled the father of physic; Haller, the father of physiology; and Vesalius may fairly be considered as the father of human anatomy. The violence of the war carried on between Francis I. and Charles V. compelled Vesalius to quit France. He served in the Imperial troops in the Low Countries as a physician, and as a surgeon from 1535 to 1537. He then travelled into Italy, making demonstrations, and reading lectures at Pisa, Bologna, and other places. He was made Professor of Anatomy in the university of Padua, about the year 1537, by the republic of Venice, and he taught in this office during seven years. In 1544, he was appointed chief physician to Charles V., and when this renowned prince abdicated in 1555, Vesalius was appointed by his successor, Philip II. This monarch's confidence in him was unbounded, from an unexpected cure which he had effected in the case of the infant Don Carlos, who had sustained a severe injury of the head from a fall. His reputation for skill and sagacity at court was so great, that it created for him many enemies, he being looked upon as a foreigner.

In 1546 Vesalius went to Basle, to make arrangements for a new edition of his work; and here being long detained, he prepared a human skeleton, and presented it to the university of that place. It is said to have been there at a late period, with the following inscription placed over it, to commemorate the gift of the illustrious donor:—

“ANDREAS VESALIUS. BRUXELLEN.
CAROLI V. AUG. ARCHIATRUS
LAUDATISS. ANATOMICARUM
ADMINISTR. COMM.
IN HAC URBE REGIA
PUBLICATURUS
VIRILE QUOD CERNIS SCELETON
ARTIS ET INDUSTRIÆ SUÆ
SPECIMEN.
ANNO CHRISTIANO
MDXLVI.
EXHIBUIT, EREXITQUE.”

No one had reached so high an eminence in his profession; and at the summit of his glory and renown, he travelled into Palestine. The precise motives operating to this determination have never been satisfactorily stated; but the cause usually assigned for it, and generally credited, carries with it an especial interest in an anatomical and physiological point of view, and may be thus stated on the authority of Hubert Languet, in a letter addressed to Gaspar Peucer.

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“Vesalius, (he says,) believing a young Spanish nobleman, whom he had attended, to be dead, obtained leave of his parents to open him, for the sake of inquiring into the real cause of his illness, which he had not rightly comprehended. This was granted; but he had no sooner made an incision into the body, than he perceived the symptoms of life, for, opening the breast, he saw the heart beat. The parents, coming afterwards to the knowledge of this, were not satisfied with prosecuting him for murder, but accused him of impiety to the inquisition, in hopes that he would be punished with greater rigour by the judges of that tribunal, than by those of the common law. But the king of Spain interposed, and saved him; on condition, however, that, by way of atoning for the crime, he should undertake a pilgrimage to the Holy Land.”

Boerhaave and Albinus say that he was condemned by the Inquisition, from which he was, by the influence of Philip, saved. He made the pilgrimage with James Malatesta, general of the Venetian army, whom he accompanied to Cyprus, whence he passed to Jerusalem. There is much in the account given to excite unbelief as to its credibility, from the extent to which dissection must necessarily be made before the heart could be exposed; yet the possibility of the muscular fibres of this organ acting by their principle of irritability, a principle unknown in the time of Vesalius, remaining even after vitality had quitted the body, may tend to sanction the statement made.

In 1563, the principal chair at Padua became vacant by the death of his pupil, Fallopius, and Vesalius was, at the invitation of the senate of Venice, induced to return, to succeed this celebrated physician. On his voyage, however, a storm arose—he was shipwrecked—thrown upon the island of Zante, and there perished of hunger, on October 15, 1564. His body was recognized by a goldsmith of Venice, who procured an honourable entombment for it, in the church of St. Mary, of that island, and he placed the following inscription over his grave:—

ANDREÆ VESALII BRUXELLENSIS TUNULUS.
QUI OBIIT IDIBUS OCTOBRIS,
ANNO MDLXIV.
ÆTATIS VERO SUE QUINQUAGESIMO,
QUUM IEROSOLYMIS REDIISET.

Thus perished the immortal Vesalius, the greatest anatomist of his age, and one whose intimate knowledge of anatomical science will ever be recorded with the highest honour. His acquaintance with the various parts of the human frame was most intimate, and he is said to have enumerated every bone placed in his hands, he being blindfolded at the time. The work of Vesalius, *De Humana Corporis Fabrica*, is to be regarded as the chief and most useful labour of his life; but not less entitled to our esteem is the opposition he afforded to the Galenists of his day, and whose hatred he incurred by the severity of his censures, and his condemnation of the doctrines then embraced by the schools. The animosity excited by these endeavours to render medical science subject to the influence of

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observation and common sense, subjected him to great persecution. The disputes ran to a fearful height, and were conducted with a bitterness of spirit not surpassed by any other event in the annals of medicine. He was persecuted on all sides for his exposition of the errors of the god of their idolatry, and his writings on this subject have not descended to us. Haller says he destroyed all the books of Galen which he had submitted to correction. One of the greatest, (if not the greatest,) advantages arising from the contest with the Galenists is, that, in the disputes, references were made to the *human* body, by which anatomy was greatly promoted. Vesalius has exhibited the utmost caution in separating the descriptions given from the dissections of animals and those upon the human body, and he is particular in detailing the modes pursued by him in his investigations. It is difficult to say upon what part of the frame his attention has been most directed, or his researches most valuable, for his work is a masterpiece of correct observation, for the period in which it was brought forth, and he is fairly entitled to greater praise than any preceding anatomist; and, by throwing off the prejudices attached to established opinions, has shown to future inquirers, the true path to sound anatomical information. The number of his enemies is alluded to by Portal: "Toute l'Europe (says he) fut remplie des injures qu'on vomissoit contre Vesale. Eustache à Rome, Driander à Marpurg, et Sylvius à Paris, s'élevèrent contre lui."

The jealousy and envy of his preceptor Sylvius appears to have been called forth at an early period. He valued himself much upon his knowledge of the Greek tongue, in which Vesalius could both write and speak with facility. Sylvius accuses him of using the pen of others in his works, and Riolan adopts the same opinion. Sylvius could not restrain his animosity—he descended to abuse, and, in allusion to the opinions put forth by Vesalius, he has said, *Vesalium non esse, sed Vesanum*.

Among those who entered into this controversy, his pupil, Gabriel Fallopius, must not be omitted. In the opposition offered to some of the opinions put forth by Vesalius against the writings of Galen, he did not lose the respect due to his distinguished master, who replied to him the instant he received his observations, and in a manner remarkable for its courtesy, and worthy of imitation in controversial matters. Although Fallopius opposes himself to certain points alleged against Galen by Vesalius, he nevertheless admits that he was, in general, correct in his designation of the errors of the great physician.

Portal is lost in admiration of the genius of Vesalius, whilst contemplating the early production of an entire work upon the Anatomy of the Human Body, derived from actual observation and dissection, at a period when such investigations were held to be unlawful. His words are:

"Vésale me paroît un des plus grands hommes qui ait existé. Que les Astronomes me vantent Copernic; les Physiciens, Galilée, Toricelli, &c.; les Mathématiciens, Paschal; les Géographes, Christophe Colomb, je mettrai toujours

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Vésale au-dessus de leurs héros. Le première étude pour l'homme, c'est l'homme, Vésale a eu ce noble objet, et l'a rempli dignement; il a fait sur lui-même, et dans les corps de tous les semblables, des découvertes que Colomb n'a pu faire qu'en se transportant à l'extrémité de l'univers. Les découvertes de Vésale touchent directement l'homme; en acquérant de nouvelles connoissances sur sa structure, l'homme agrandit, pour ainsi dire, son existence, au lieu que les découvertes de Géographie, d'Astronomie ne touchent l'homme que d'une manière très indirecte. La maison de Vésale sort aujourd'hui de Convent aux Capuchins de Bruxelles. Ces Religieux se font encore un honneur de dater leurs lettres *ex ædibus Vesalianis*. On trouve des gens de goût dans tous les états."—*Hist. de l'Anat. et de Chirurg.* tom. i. p. 399.

The works of Vesalius may be arranged in the following order:

1. Paraphrasis in nonum librum Rhazæ ad Regem Almansorem, de affectuum singularium corporis partium curatione, Lovan. 1537, 12mo. Also at Leyden in 1551, and at Witteberg in 1587, in 8vo.

2. Epistola docens Venam Axillarem dextri cubiti in dolore laterali secandam, et melancholicum succum ex venæ portarum ramis ad sedem pertinentibus purgari, Basileæ, 1539, 4to.

3. Epitome de Humani Corporis Fabrica, Basileæ, 1542, fol. Idem. 1543; Paris, 1560; Colon. 1600; Leidæ, 1616; Amst. 1633, with notes by P. Paaw; 1642, with notes by Nic. Fontanus. This work has been translated into various languages, among others into the English, by Thomas Geminus, or Gemini, with the assistance of Nicholas Udall and others. Geminus was an engraver, and put forth the plates of Vesalius as of his own invention, whereas they are all copied from a German edition, illustrated with wood-cuts, of the publication, without acknowledgment. Two editions of this work in English were published, copies of both of which are in my library. They were preceded by a Latin edition in 1545, dedicated by Geminus to Henry viii. The English are of the dates of 1553 and 1559. They are in folio, and a good black letter. The title is, *Compendiosa totius Anatomie delineatio, ære exarata*. The first edition has a curiously engraved title-page, with the arms of England in the centre, surrounded by various allegorical figures. It is dedicated to King Edward VI., after which follows, *To the gentill readers and Surgeons of Englande, Nicolas Udall in the Lorde gretyng, with encrease of good Knoweluge*, which address is dated 1552. At the conclusion of the work is, *Imprynted at London by Nycholas Hyll dwellynge in Saynte John's streate, for Thomas Geminus*. In the second edition, the title is wanting in my copy. It is dedicated to Queen Elizabeth, and terminates with *Imprinted at London within the blacke fryars: by Thomas Gemini*.

4. De Radicis Chynæ, Basileæ, 1542, 1546; Venet. 1546; Ratisb. 1546; Leyd. 1547, 12mo. This is a work of criticism rather than of Materia Medica. Vesalius used the China root with advantage in the case of Charles V.

5. De Humani Corporis Fabrica, Basileæ, 1543, fol. 1555, 1563; Venet. 1568, 1604; Francof. 1604, 1632, with the original plates. This, the chief work of Vesalius, was translated into many languages. The plates have uniformly been the subjects of praise and admiration, and the drawings from which they have been made have been, but incorrectly, ascribed even to Titian.

6. Epistola, rationem modumque propinandi radice Chynæ decocti pertractans: et præter alia quædam, epistolæ ejusdam ad Jac. Sylvium. Basileæ, 1546, folio.

7 Anatomiarum Gabr. Falloppii Observationum examen. Venet. 1564, 4to.

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8. *Anatomes Totius, ære insculpta delineatio cui addita est Epitome innumeris mendis repurgata quam de Corporis Humani Fabrica conscripsit clariss. A. Vesalius. Cum elucidatione à J. Grevino. Lutet. Par. 1565. fol.*

9. *Consilium pro illustrissimi Terræ-Novæ Ducis fistula. Venet. 1568, 4to.*

10. *Chirurgia Magna in septem libros digesta. Venet. 1569.* This was published a few years after the death of Vesalius by one of his pupils, named Prosper Borgarucci. It is a mere compilation, and ought scarcely to be regarded as a work by Vesalius.

11. *Opera Omnia Anatomica et Chirurgica. Cura Herm. Boerhaavii et B. S. Albini. Lugd. Batav. 1725, folio. 2 vols.* This is the most complete edition of the Works of Vesalius, to which is prefixed a Life of the Author, referred to in the preceding memoir. The known character of the editors will recommend this edition in preference to all others. The plates are beautifully executed.

Various portraits of Vesalius have been handed down to us, and are to be found in several public collections. That engraved for this work is in the Royal College of Physicians—to the council of which body I am indebted for the permission to engrave it—and is by John de Calcar, or Kalcker. He resided in Venice, and studied in the school of Titian, and so successfully imitated his great master, that, according to Vasari, he has deceived several of the best judges. He was born in the duchy of Cleves in 1499, and died at Naples in 1546. He designed the anatomical figures for the work of Vesalius.



James Wardrop

JAMES WARDROP, M.D.

SURGEON TO HIS LATE MAJESTY GEORGE IV.

“Those who have arrived at any very eminent degree of excellence, in the practice of an art or profession, have commonly been actuated by a species of enthusiasm in their pursuit of it. They have kept one object in view, amidst all the vicissitudes of time and fortune.”

KNOX.

THE subject of the present memoir is the son of James Wardrop, Esq., and Christina, daughter of Alexander Marjoribanks, Esq., of Marjoribanks, and was born on the 14th of August, 1782, at Torbane-Hill, in the county of Linlithgow, a small property in a wild uncultivated district of Scotland, which belonged to his forefathers for many generations, adjoining the parishes in which the Hunters and Baillie first drew breath. Mr. Wardrop was educated at the High School of Edinburgh, a seminary whence have emanated many of the most renowned men Scotland has produced. After attending the literary classes of the University, he, at a very early age, entered upon the study of medicine, under the superintendence of his uncle, Dr. Andrew Wardrop, then a surgeon of considerable eminence in the Scotch metropolis. He became assistant to the celebrated anatomist Dr. Barclay, with whom he acquired a great fondness for anatomical pursuits, and, at the age of nineteen, he was appointed House-Surgeon at the Royal Infirmary. In the twentieth year of his age he repaired to London, where he attended successively the lectures of Abernethy, Cline, and Cooper, and also the practice of the hospitals of Guy and St. Thomas, and also that of St. George. Desirous of visiting the continental schools, which then were little known to British students, he went to Paris, though, at that time, war having commenced with England, the English residents in France were treated as prisoners. He contrived, however, by getting a small room in the Ecole de Medecine adjoining the museum, to evade the vigilance of the police, and pursue his studies unmolested; and, after residing there for some months, by the generosity of a French officer, he was provided with the means of leaving France, and passing into Germany. At Vienna he attended the lectures of Franck, Prochaska, and Beer, from the latter of whom he derived much of that zeal which led him afterwards to investigate the diseases of the eye.

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as is shown in the evidence before the Committee of the House of Commons, £1000 for his services.

There are circumstances connected with the last illness of George IV. which deserve notice here, as forming part of Mr. W.'s professional history. About eight weeks previous to the King's death, Mr. Wardrop visited his majesty at Windsor, the King then being considered in a state of convalescence from a severe inflammatory attack of the chest. From the state of the respiratory and circulating organs, Mr. W. was convinced that the condition of the heart was much altered; and on returning to London, he instantly repaired to Sir Henry Hallford, purposely to direct his attention to this important circumstance, and to urge him to visit His Majesty on the following day, which was several days sooner than had been appointed. His Majesty continued to be attended by the late Mr. O'Reilly, on whose practical talents the King had great confidence, as well as by Sir H. Hallford; and Mr. Wardrop's visit at Windsor was not repeated until he was called upon by the "lord in waiting," commanding him immediately to repair to Windsor. This visit was made on Sunday the 25th of April, 1830. On this occasion, when Mr. W. entered the royal bedchamber, he found His Majesty alone, sitting upon a couch, his countenance bespeaking some serious mischief. He had great embarrassment in breathing; and, after detailing every circumstance of his case, and Mr. W. had made a most careful examination of the chest, His Majesty said, in a firm and decided tone, "Tell me, my good friend, what you think, really and truly, is the matter with me, for I am confident that there is something much more serious than —— either thinks or chooses to tell me." Mr. W. then stated to His Majesty that the difficulty of breathing arose entirely from an impediment of the circulation of the blood through the heart. His Majesty replied, in a manly tone, "Tell me, Wardrop, honestly, if you think I shall recover." To which Mr. W. answered, that his condition was by no means hopeless, though His Majesty must be perfectly aware that any disease of a vital organ, like the heart, could not be altogether free of danger.

After having remained in the royal bedchamber about forty minutes, Sir William Knighton entered, and Mr. W. retired. The King having stated to Sir William Knighton the opinion which Mr. W. had given of his case, and Mr. W. having repeated that opinion to Sir W. K. at his own particular desire, Sir William then requested Mr. W. to state in writing that opinion, and the treatment he proposed to adopt, in a letter addressed to Sir Henry Hallford, and which he would deliver to Sir Henry on his arrival at Windsor in the evening. In this letter, Mr. W. intimates his opinion that the affection of the heart might be dependent on an *arthritic diathesis*, and that, if by pediluvia and the application of stimulants to the legs and feet, the gout could be brought to manifest itself in the limbs, His Majesty might be relieved. He also suggested, that leeches should be applied to the region of the heart.

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The *post mortem* examination of the King demonstrated the morbid condition of the heart, and afforded a most satisfactory proof of the correctness of the opinion Mr. W. had formed during the King's illness, and the propriety of the treatment he had proposed. But after the period of this visit, Mr. W.'s attendance at Windsor terminated, though he afterwards learnt that the King had repeatedly expressed a wish to see him, and also surprise at his never having returned to the palace. Such, however, was the helpless condition of the monarch on his death-bed, that he was entirely under the control of a few individuals who surrounded his person.

In concluding this most painful part of my narrative, in which, I trust, it will be apparent that I have no other desire than to be the impartial recorder of facts derived from the best authority, it is but justice to the memory of one of those individuals, Sir William Knighton, to state that, a short time previous to his decease, he evinced deep contrition for the conduct he had pursued on that eventful occasion; and on the very day of his death, Mr. W. had the gratification of receiving a letter from Lady K., (Oct. 11, 1836,) in which, to use her own words, she says, "It was the earnest desire of my late dearest husband, towards the close of his illness, to have requested you to have come to his bedside, in order that he might have expressed to you his entire good-will after the misunderstanding that occurred between you at the time of the late King's illness, when hurry and anxiety of mind caused what you imagined an omission towards you." This document could not fail to be acceptable to Mr. W., and to have been most grateful to his feelings, and it must be contemplated with emotion, as the last act of a dying man, making a struggle to heal a wound which he had inflicted on a fellow-being, and to quit this world of sorrow in peace with all mankind!

I must now direct the reader's attention to the works of Mr. W.:—The importance of vision to intellectual excellence and physical enjoyment, renders every attempt to illustrate the pathology of the organ of sight of the highest interest, and it is surprising that, prior to the appearance of Mr. Wardrop's *Essays on the Morbid Anatomy of the Human Eye*, no systematic treatise should have been produced. With the exception of detached papers on particular subjects, little else had appeared. To collect these together, and to render the practical observations of such men as Richter, Beer, Scarpa, Conradi, Voigtel, Schmidt, and others abroad, as well as those of our own countrymen, available to the practitioner, was a task requiring great penetration and judgment, and it is due to Mr. W. to say, that he executed this object in a masterly manner, and added, by his own ingenuity and experience, materially to the information possessed on ophthalmic surgery. He has the singular merit also of having arranged the subject in conformity to the classification of textures made by Bichât, the importance of which has already been noticed in the memoir given of that illustrious physiologist.

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In the preliminary observations to his work, Mr. Wardrop gives a brief account of the system of Bichât, which he considers as founded on the most approved principles of philosophical investigation. The variety of textures which enter into the formation of the eye renders this organ the best example that could possibly be afforded in illustration of the accuracy of this system, and the investigation of this subject introduces us to an enlightened and philosophical mode of the treatment of its diseases. Mr. W. has arranged these, and pointed out their distinctions. To quote from any part of the work would extend this memoir beyond the assigned limits; and where all is alike important and practical, it would be difficult to make the selection. The work must be carefully studied, as it will be found to contain the best information on the subjects of which it treats. The first volume appeared several years before the second, being published in 1808, and again in 1819. The second volume appeared in 1818, and again in 1834. The coloured plates illustrative of the diseases are most beautifully and faithfully executed.

In 1809, Mr. Wardrop published *Observations on Fungus Hæmatodes*. This disease was formerly confounded with Cancer and Scrofula, although so strikingly different in many of its characters. To Mr. Hey we are indebted for its name; but Mr. Burns first described it under the title of spongoid inflammation, and Mr. Abernethy called it medullary sarcoma. Mr. John Hunter had designated it soft cancer. It is not a little singular that these authors should have been in ignorance of the researches of each other; but probably it is to be accounted for in the difference of name given to the disease. Mr. W. has the merit of comparing these accounts, and also of having first described it as occurring in the eye. Scarpa has done justice to our author upon this subject in his *Treatise on the Principal Diseases of the Eyes*.* Mr. W., he says, has shown

“from careful observation, founded on pathological anatomy, that the morbid change of structure of the eye-ball in children, commonly called *carcinoma*, is not in reality produced by cancer, but by another species of malignant fungus, to which modern surgeons have given the name of *hæmatodes*, a disease indeed equally, and, with regard to the eye, more formidable and fatal than cancer, but distinguished from it by appropriate and peculiar characters, which, not being confined to age, sex, or part of the body, attacks the eye-ball both in infants and adults, but especially the former, under the form of common cancerous fungus.”

As I shall have frequent occasion to refer to Mr. W.'s researches on this subject, I shall content myself with here stating, that the work embraces a description of its anatomical characters, and fully details its history. A considerable number of facts are brought under view, to form a complete elucidation of the disease, and to give an account of it as occurring in various organs of the human body.

* Edit. 1813, translated by Briggs, p. 502.

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In 1813, Mr. Wardrop published a case, equally interesting to the metaphysician and the physiologist—*The History of James Mitchell, a Boy born Blind and Deaf, with an Account of the Operation performed for the Recovery of his Sight*. Instances of the deficiency of hearing and speech are of very common occurrence, and are sufficient to excite our tenderest sympathies; but the case of a poor boy with absence of vision superadded to these calamities is truly lamentable. It is a defect in the human organization of which I know no other case upon record, and the whole narrative is replete with the most painful interest. The boy was fourteen years of age when brought to London and placed under Mr. W.'s care. The pupil of each eye was obscured by a cataract; in the right eye it was of a white colour and pearly lustre, and appeared to pervade the whole of the lens; in the left it was not equally opaque, but the pupil of the right eye dilated most readily, and it was evident that he was sensible to light, though quite unable to distinguish objects of any kind. He had a fondness for light, and was eager in gratifying it. Mr. W. gives a very interesting account of this, his condition. There was no apparent defect in the organization of his ears, and he derived pleasure from striking his teeth with sonorous bodies. His senses of smell and touch were most acute—by the former he could readily recognize persons, and by the latter could distinguish various colours. He seemed also to enjoy a preternatural acuteness of taste, and by these senses to supply the deficiency he experienced in those of sight and hearing. Ordinary objects he examined by his fingers applied in the most precise manner—more minute objects he subjected to the application of his tongue, insinuating its point into the inequalities of the body under examination. By smell he readily detected strangers, and recognized persons previously known to him. He never partook of food without first submitting it to the ordeal of this sense, and in his selection he was very careful and delicate. He was very curious to make himself acquainted with all surrounding objects, and exhibited a great partiality to animals. His disposition and temper were generally placid, but he was easily excited to anger; on these occasions, and on no other, he would use his voice, in the utterance of the most harsh and loud screams. It is not a little singular that he should have had a love of finery, and was very proud of new clothes. Mr. W. determined on operating upon the right eye; this was effected with great difficulty, from his struggles in opposition to the necessary confinement, and at length the eye could only be couched—this produced an admission of light which gave him great satisfaction. On the fourth day of the operation he could distinguish a book placed on the bed, and in many of his attempts to touch it, he seemed to judge with tolerable accuracy of its distance. In this, however, it was evident that he placed but little trust in the information acquired by sight, for he always turned away his head while he carefully examined bodies presented to him by the sense of touch. On the seventh day Mr. W. took him into the street, and he was

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much interested, though somewhat frightened at the busy scene around him. He was delighted with the view of various coloured clothes, and selected a suit of most fantastic hues,—light yellow breeches, and green coat and waistcoat. Mr. W. has given a curious account of the putting on of the garments, and designates it as one of the most extraordinary displays of sensual gratification which can well be conceived. He returned to Scotland: the fragments of the lens, and the opaque portion of the capsule were undergoing absorption, and his sense of sight improving accordingly; but not to a degree which enabled him materially to add to his stock of information.

As somewhat connected with the preceding subject, I may be permitted here to place out of its proper order a communication made by Mr. Wardrop to the Royal Society in 1826; a paper very interesting in a physiological point of view, as illustrative of the preservation of the nervous sensibility of the retina unimpaired for a great number of years. The paper is entitled, *Case of a Lady born Blind, who received Sight, at an advanced Age, by the Formation of an Artificial Pupil*. At six months, an operation had been performed on both the eyes, but the globe of one was destroyed, and in the other the pupil was closed. This state of blindness was permitted to continue until her forty-sixth year, when Mr. W., by three successive operations, removed portions of the closed iris, and thus restored vision. An account of her sensations up to the forty-second day after the last operation, is given by Mr. W., from which it appears, that up to that period she had acquired, but very imperfectly, if at all, the power of directing her eye to any given object; catching it only by repeated trials, and, as it were, searching for it; nor was she at that time capable of rightly appreciating the distances of objects. Colours, however, forms, and relative situations, in angular positions, were distinguished much earlier; the former immediately, the latter after very short practice. She appeared equally delighted and bewildered by her new sense; pleased with gay colours, and sparkling objects, but most profoundly and permanently affected by the grand features of nature—the clear blue sky, the fields and trees.*

In 1819, Mr. Wardrop successfully competed for a prize, offered by the Board of Agriculture, for the best *Essay on the Diseases of the Eye of the Horse, and on their Treatment*. Mr. W.'s Essay was printed by the Board in the first volume of the new series. As an investigation of the structure of organs, and an inquiry into their functions in brute animals, has been found essentially to promote a knowledge of human physiology, so I doubt not, advantage might also be derived from a consideration of the diseases to which they are subject in elucidation of those of the human species. The diseases of the eye of the horse are less numerous than those of man, and the treatment required is much more simple. Mr. W. has given an

* See Phil. Trans., 1826, Part III. p. 529.

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account of the structure of the eye of the horse ; of the simple, the puriform, and the specific inflammation of the organ ; of the injuries of the eye, and of the introduction of extraneous substances between the eye-lids, and also of the specks on the cornea. These are considered in the different states or conditions of the animal, in which the treatment requires to be somewhat varied.

Mr. Wardrop's *Biographical Memoir of the late Dr. Baillie*, accompanying the edition of his works which Mr. W. edited, has been noticed in the memoir of that distinguished physician. It appeared in 1825, in two vols., 8vo., two years after his decease. Mr. Wardrop likewise prefixed to the "Morbid Anatomy," some *Preliminary Observations on Diseased Structures*. He there treats of specific diseases ; of particular diseased structures ; of the scrofulous and scirrhus structures ; of the fungus hæmatodes ; the fungus melanodes, and of compound diseased structures.

In 1828, Mr. Wardrop published a work *On Aneurism, and its Cure by a New Operation*. In this publication, the pathology of the disease, as more immediately connected with the new operation, is fully considered, and the operation of John Hunter reviewed. In the *Lancet* and *Medico-Chirurgical Transactions*, various parts of what is here brought together, had been detailed. The whole is placed in a connected view. The operation proposed by Brasdor, a professor in the School of Surgery of Paris, detailed by Desault in his lectures, was first performed by Deschamps, and next by Sir Astley Cooper, but with unsatisfactory results. Mr. W. successfully revived it, since which it has been adopted by Dr. Bush, Mr. Lambert, Mr. Montgomery, and others. It had, however, been severely condemned by Mr. A. Burns, and it therefore demands a more specific detail in this place. John Hunter's operation has already been noticed : he, it will be recollected, tied the artery on the *cardiac* side of the aneurism. Brasdor's operation is to obliterate the vessel on the *capillary* side. Some aneurismal swellings are so situated, as not to admit of securing the vessel between the tumour and the heart, and have, therefore, been deemed beyond the aid of surgery. Brasdor proposed in these cases to place the ligature on the capillary side of the tumour ; but he never carried this operation into practice. Desault thought it likely to be useful, but failed to employ it. Deschamps executed it under most unfavourable circumstances, and the patient died in eight hours. Sir Astley Cooper, with his characteristic zeal, employed it in a case of aneurism of the external iliac artery, which extended into the abdomen ; but the aneurism, after some time, burst, and the patient died from extravasation of the blood into the cellular membrane. Mr. Wardrop met with a case of carotid aneurism at the root of the artery, and in 1825 adopted the operation of Brasdor. He was led to this from viewing the principle of the operation to be that which nature employs to cure the disease by a *spontaneous* process. The subject of the operation was a female of the advanced age of seventy-five ; the aneurism was of short

standing, had occurred after a violent fit of coughing, and had advanced to such a degree, as hourly to threaten the life of the sufferer: the aneurismal tumour was in contact with the clavicle, and it was quite impracticable to tie the carotid between the tumour and the heart. Under these circumstances, he determined upon adopting Brasdor's operation. The vessel was tied as close to the tumour as possible, and there was an immediate diminution of its bulk. By the third day it was reduced one-third of its size, and on the fourteenth it had lost all pulsation, and was about one half of its original dimensions. An ulceration of the skin on its more prominent part, admitted of the escape of large coagula, and on the twentieth day after the operation, nothing remained of the tumour but a wrinkled portion of skin, and a thickened portion on which the base of the tumour had rested. The health of the patient was completely re-established, and she lived some years afterwards in good health. A second successful case, also of the carotid artery, by Mr. W. was published in the *Lancet* for 1826; but this patient died of hypertrophy of the heart, attended with anasarca, &c., upwards of three months after the operation. It is not necessary to particularize other cases.

The object to be obtained in these cases was the coagulation of the blood which is contained within the sac, and this is to be effected either by cutting off all supply of blood to the sac, or by diminishing the momentum of the blood circulating through it. To what degree this is necessary to be diminished, has not hitherto been precisely ascertained. Mr. W. thinks, from an examination of cases of spontaneous cure, that the process of coagulation must commence when the impetus of the blood is very slightly diminished; and he is, in my opinion, entitled to great praise for the ingenuity he has exercised on this subject, and the practice subsequently established upon the views entertained by him in the relief of aneurisms of certain vessels, by the application of ligatures upon only *one of the branches* of the diseased artery. He has tied the subclavian artery in a case of aneurism of the arteria innominata, (see *Lancet* for July, 1827.) At the expiration of a year, no tumour could be perceived; the patient had suffered severely from bronchitis, and had undergone great depletion; but at this time her health was better than it had been for a long time. From this case it will be apparent that Mr. W. has not only fully established Brasdor's operation, but applying the principle upon which all aneurisms may be spontaneously cured, has introduced another and a new mode of operating, founded upon this principle, and applicable to cases of aneurism which have hitherto been looked upon as necessarily fatal. On this principle, no less than eight cases of aneurism have been operated upon, and all of them successful, except those where it has been injudiciously adopted, from the thoracic viscera having been in a diseased state.

Connected with this subject, I must now allude to the *Cyclopædia of Practical Surgery*, edited by Mr. Costello, of which three parts only have

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hitherto appeared. Mr. Wardrop has contributed two important articles, one on *Anastomosis*, the other on *Aneurism*. The former Mr. W. views as serving three distinct purposes: preventing a defective supply of blood—diminishing the velocity in the current of blood—and abating the weight of the column of blood. Of the importance of a knowledge of the power of nature by anastomosis, or inosculation, I have already spoken in the memoir of Sir Astley Cooper, whose experiments and dissertations have tended to illustrate this subject in the most satisfactory manner. Mr. W. details the various kinds of anastomosis, represents them in ingenious diagrams, and applies this knowledge to the practical objects of surgery.

Mr. Wardrop's previous publication *On Aneurism*, will show how qualified he is to treat of the subject in all its branches; and in the article in the *Cyclopædia*, he has, with great perspicuity of detail—compressed, but in no way obscured—given a complete history of the disease, and the modes of treatment requisite for its various kinds and degrees. He has treated of the true, or encysted; of the false, diffuse, or traumatic; and of the varicose aneurism. He gives a detailed account of the different arteries in which aneurism has been found to occur, and in which they have been operated upon, with the results; and he enters into a consideration of the operations which have been proposed and adopted for their cure. All these subjects, of the deepest interest to the surgeon, are treated of in a most able manner, and the article offers a complete manual on a subject, for the relief of which, the modern improvements in surgery may be looked upon with the highest satisfaction. Nor are the instances of spontaneous cure of the disease overlooked—all the varieties of which he refers to one process, namely, that

“depending on the effusion of concremented fibrine within the sac, or both within the sac and a portion of the artery adjacent to the aneurism; and which fibrinous concretion is caused, or is permitted to be formed, whenever the circulation of the blood within the sac becomes preternaturally languid.”

The last distinct publication by Mr. Wardrop, is the first part of a work *On the Nature and Treatment of the Diseases of the Heart; with some new Views on the Physiology of the Circulation*. These are entitled to close investigation. Mr. W. contends for the existence of three important functions connected with the circulation of the blood, which have hitherto been overlooked by physiologists:

“*First*. That the muscles, besides being the active organs of locomotion, perform the important office of increasing the quantity of arterial, as well as venous blood, within the cavities of the heart.

“*Secondly*. That the lungs regulate the supply of blood to the heart, so as to prevent congestion within the heart's cavities; and,

“*Thirdly*. That the subcutaneous veins performing the offices of a reservoir, prevent congestion of blood within the pulmonary vessels.”

By establishing these important functions,—of the organs of active motion,—of the lungs, and of the subcutaneous veins,—several phenomena,

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both of the respiratory and circulating organs, he thinks, admit of a satisfactory explanation. These views are put forth preparatory to a second part of the work, to treat of the diseases of the heart. The subject must be admitted to be of the highest importance, and Mr. W. is qualified to do justice to it. Continental physiologists have been excited to the inquiry, and the work has already appeared in the French and German languages. Mr. W. has ventured to lay aside all pre-conceived opinions on the subject of the heart's action, and to rely upon his own powers of observation, and the reflections springing from original sources of inquiry.

I have previously alluded to Mr. Wardrop's contributions to the *Encyclopædia Britannica*, and the *Edinburgh Medical and Surgical Journal*. The entire article on *Surgery*, in the former work, was composed by Mr. W., in accordance with the system of Bichât; and the matter is well digested and compressed. It contains many original views. In the earlier volumes of the latter work, there are seven papers:—

1. (Vol. II. p. 203.) *Case of Crural Hernia, in which the Obturator Artery surrounded the mouth of the Sac.* As every variety of hernia, or of the parts concerned in that disease, demands attention, in the event of an operation being required to relieve it from strangulation; this case deserves its appropriate record. Mr. W. met with it whilst engaged in his anatomical studies at Paris, and the subject of it was brought into the anatomical theatre. He made a drawing of the variety in the distribution of the artery, and a plate is given to point it out with accuracy. Dr. Barclay had a preparation of a similar description.

2. (Vol. III. p. 56.) *Observations on the Effects of Evacuating the Aqueous Humour in Inflammation of the Eyes.* According to Mr. W. the opacity or transparency of the cornea may depend upon the degree of distention occasioned by the humours within the eye-ball; and any one may satisfy himself on this point in the dead subject, by pressing the globe; when, according to the force applied, will be the opacity of the transparent cornea. Mr. W. applies this fact to the diseased condition of the organ, and proposes the evacuation of the aqueous humour to relieve this, as well as in cases of inflammation of this organ. He relates several instances in which immediate relief ensued from the practice, which he strongly recommends, as no increase of inflammation followed in any case, nor was it attended with any disagreeable consequence. This paper was separately published with additions in 1818.

3. (Vol. III. p. 421.) *Dissection of two Cases, in which a Moveable Body was formed within the Cavity of the Vaginal Coat of the Testis.* In one case a substance having the elasticity of common cartilage, and being three-fifths of an inch in diameter, was found loose in the cavity. A section of the body, which offered considerable resistance to the knife, demonstrated its formation in concentric layers, with a brown spot in the centre,

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as hard and as brittle as bone. The second case presented a substance resembling cartilage, of the size of a garden pea, loose in the vaginal coat. Mr. W. who was ignorant of the history of either of these cases, being in subjects brought to the dissecting-room, conjectures the bodies to have been the result of previous inflammation, portions of effused lymph being in both instances to be observed on the surface of the coats of the testis. The real difficulty appears to be in accounting for their detachment from the surface of the membrane. Mr. W. cites a case by Professor Richter, who operated upon a patient, and allowed the escape of three bodies of a similar nature, which were loose in the scrotum.

4. (Vol. V. p. 1.) *Practical Observations on the mode of making the Incision of the Cornea, for the Extraction of the Cataract.* The incision in the cornea is the most important step in the operation for cataract: it must be ample enough to allow of the free egress of the lens, and it must be made at a point to interfere as little as possible with vision. It is, therefore, usual to make it along the edge of the cornea, where it is in conjunction with the sclerotic coat; and the great difficulty to be avoided is, the contact of the knife with the iris, which is likely to ensue the instant the aqueous humour has escaped from the wound. Mr. W. proposes to remedy this by making the incision with the triangular knife of Beer, in such a manner, as not to take away the support to the iris when it is made. He particularly describes the mode of effecting this, and he published the paper as a separate pamphlet in 1818.

5. (Vol. VIII. p. 197.) *Case of Palsy cured by Titillation, with some Observations on the Effects of Titillation on the Nervous System.* A man twenty-three years of age, belonging to the army in Portugal, had several attacks of fever, and, upon his return to Britain was struck by a complete paralysis of the left side. His leg remained feeble, and his arm and hand useless, eighteen months after the attack. In this state Mr. W. saw him, and, after necessary measures to take off any febrile condition of the system, he determined upon trying the effects of titillation upon the skin, having repeatedly observed the close sympathy which exists between that part of the body and the nervous system. The mode adopted was to pass a feather lightly across the palm of the hand three or four times daily until laughter was occasioned. This was not readily produced in the first instance; but it became easier, and then the beneficial effects resulting from the plan were perceived. He described a feeling of re-animation in the part, and this continued for a short time after each fit of laughter. A power to produce a sensible and voluntary motion of the fingers followed, and in the course of a month he was enabled to grasp a body with moderate firmness. The elbow and shoulder joints manifested an improvement, and in the course of two months from the commencement of the practice, Mr. W. says he had the satisfaction of seeing the man carrying a bundle under the affected arm. The same mode of treatment was applied to the lower limb,

and laughter was here more readily produced than in the hand. In four months he was perfectly well. It should be remarked, that, in addition to the titillation, he also used dry-rubbing of the limbs, to remove an œdematous condition, and to produce a greater excitation of the skin. From a single case, it would be unsafe to draw any conclusion, but the subject is surely deserving of notice, and the method, of repetition. It is not adapted to all cases of palsy, and Mr. W. judiciously warns the medical practitioner from resorting to it where any increased action in the brain is going on—it is only applicable to cases where the primary affection is removed, and the paralytic state, the consequence, alone remains.

6. (Vol. IX. p. 11.) *Dissection of an Albuminous Concretion which was found in the Cavity of the Thorax, loosely adhering to the Pleura Pulmonalis; with some Observations on the Diseases of the Serous and Synovial Membranes.* This paper is a consequence of the consideration of No. 3, previously noticed. The relation of the moveable substances in the scrotum to similar bodies within the synovial or serous membranes, must be apparent, and this case gives an account of an albuminous concretion, of the size of a Spanish hazel-nut, attached to the pleura by a few points.

7. (Vol. X. p. 1.) *Sketch of the Life and Writings of the late Mr. Benjamin Gibson, Surgeon in Manchester.* The subject of this sketch was well known for various interesting improvements made by him in different branches of surgery. These are well stated by Mr. W.

To the Transactions of the Medico-Chirurgical Society, Mr. W. has furnished ten papers:

1. (Vol. IV. p. 142.) *On the Effects of Evacuating the Aqueous Humour, &c.* This is a continuation of the subject, first treated of in the Edinburgh Medical and Surgical Journal, and gives the subsequent successful result of the mode of treatment in a series of cases of ophthalmia, and in some affections of the cornea. The late Mr. Ware adopted the practice in the purulent ophthalmia of children.

2. (Vol. IV. p. 309.) *History of a Diseased Metacarpal Bone.* The date of this paper is 1813, at which time few instances had occurred in which diseased portions of bone concerned in the formation of the articulations had been removed in order to save the limb. The practice is now fully established. Mr. W. was one of the earliest to adopt it.

3. (Vol. V. p. 129.) *An Account of some Diseases of the Toes and Fingers, with Observations on their Treatment.* Mr. W. endeavours to show that the term “growth of the nail into the flesh” has not any real existence—that there is no alteration whatever in the shape of the nail, and that it has no more share in the production of this truly painful and troublesome affection than that which arises from its resistance to the tender flesh, to which it becomes a source of constant irritation. Mr. W. recommends that the nail should be left untouched, and that the fungous and swollen flesh should be diminished by the application of caustic. He

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has also in this paper described what he calls *Onychia Maligna*, an ulceration at the root of the nail of a very malignant character. It may occur both on the fingers and toes, and convert them into masses of deformity. Amputation has often been resorted to in such cases; but Mr. W. has succeeded in arresting the progress of the disease, and destroying its character by the use of mercury internally, so as sensibly to affect the gums. Lunar caustic he has found the most successful application for corns. For chilblains he strongly recommends the application of tincture of cantharides, one part of which is to be mixed with six of the soap liniment. I have extensively employed this remedy in the early stage of the disease with the most beneficial results.

4. (Vol. V. p. 358.) *Case where a Seton was introduced between the Fractured Extremities of a Femur, which had not united in the usual manner.* This subject has been noticed in the memoir of Sir B. C. Brodie, Bart., who has subjoined a case to this paper, in illustration of the advantages of the practice adopted.

5. (Vol. VII. p. 278.) *On the Laceration of the Fibres of Muscles, particularly of the External Gastrocnemius.* This, I believe, occurs more frequently than is generally supposed. The muscle must be relaxed, and the torn fibres placed in apposition, until union is effected.

6. (Vol. VIII. p. 246.) *Account of a Case where a severe Nervous Affection came on after a Punctured Wound.* We know but little of the diseased changes occurring in the nervous system, and examinations of wounded nerves have exhibited to the eye of the pathologist, very unsatisfactory evidence of altered structure. The case recorded by Mr. W. strongly illustrates this, for a woman received a prick of the finger with a gooseberry thorn,—it was succeeded by pains and nervous paroxysms of such intensity, as to render it necessary, a twelvemonth after the occurrence, to amputate the finger, by which all distressing symptoms immediately vanished; but dissection of the finger exhibited no change whatever in the appearance of the nerves differing from their ordinary and healthy condition.

7. (Vol. IX. p. 199.) *Some Observations on one Species of Nævus Maternus; with the Case of an Infant where the Carotid Artery was tied.* In this paper Mr. W. demonstrates the structure of the subcutaneous nævus, to consist of a congeries of cells, which are rather the continuation of veins, or hold a direct communication with them—hence venous blood circulates through them in the same manner as the arterial blood does in what Mr. John Bell has called the aneurism by anastomosis. In the case in which the carotid artery was tied, the child died on the fourteenth day after the operation, being exhausted by the irritation of an ulcer, which involved the whole surface of an enormous tumour. The success attending Mr. White's plan by ligature, will, in most instances, induce surgeons to employ it in future cases of nævus.

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8. (Vol. X. p. 1.) *Account of the Rheumatic Inflammation of the Eye, with Observations on the Treatment of the Disease.* Rheumatic ophthalmia will not admit of active depletion, like to ordinary inflammation of the eye. Mr. W. has found the greatest advantage to arise from the evacuation of the aqueous humour, and the internal exhibition of small doses of cinchona. The paper contains an excellent description of the local and constitutional symptoms characterizing the disease.

9. (Vol. X. p. 273.) *Some Observations on a Mode of performing Operations on Irritable Patients.* This method consists in bleeding to syncope; a practice, perhaps, in a few cases admissible, but in the majority of instances likely to prove prejudicial to recovery. It should be observed, that Mr. W. does not recommend it for indiscriminate adoption.

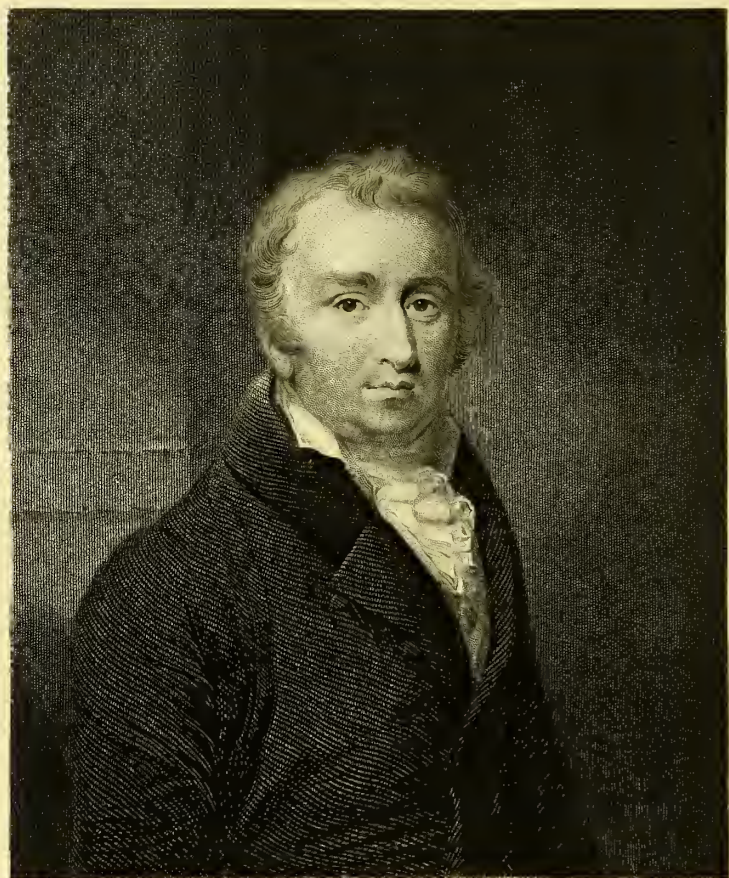
10. (Vol. XII. p. 205.) *Case of a Wounded Nerve of the Thumb.* A partial division of a nerve is not unfrequently followed by distressing symptoms, which receive relief by a complete incision of the wounded part. This case strongly exemplifies the fact.

To the second volume of the Transactions of the Medico-Chirurgical Society of Edinburgh, Mr. W. contributed an *Account of the Exanthematous Ophthalmia*. This has generally been confounded with scrofulous ophthalmia; but it is perfectly distinct, and is always either accompanied or preceded by some eruptive disease—in the former case most frequently behind the ears, and in the latter succeeding to measles, scarlet fever, &c. Mr. W. gives a particular account of the symptoms characterising it, and recommends for its treatment, great attention to the condition of the bowels, which are always found to be more or less disordered in these cases.

In addition to the various works and separate papers, of which I have now given a brief account, the volumes of the *Lancet* will be found to contain a variety of miscellaneous papers by Mr. W., reports of cases, lectures, &c., which must all be perused with interest. I have not space even to enumerate them; but I must especially direct the attention of the medical reader to those on *Bleeding*;* to some *Clinical Observations on Various Diseases*; and to a *Case of Nævus on the Face, successfully treated by tying the Carotid Artery*.† In this case the nævus was extensive, and dipped into the orbit. The progress of the case under the operation was most favourable, and, ten months after it, nothing remained but the membranous bag which was originally distended with blood. This memoir has unavoidably extended to a considerable length, and leaves me only room to express my gratification at the labours of Mr. W. and to wish him every success in the prosecution of his ingenious researches.

* Published separately with additions in 1835.

† Vol. X. et seq.



James Wilson

JAMES WILSON, F.R.S.

“ Infusing into their young breasts such an ingenuous and noble ardour,
as would not fail to make many of them renowned and matchless men.”

MILTON.

JAMES WILSON was born at Beith in Ayrshire, in the year 1765, where many of his family still reside. His father was educated for the Scotch church, and removed to London, taking with him the subject of the present memoir, whom he placed as a house-pupil with Mr. Cruikshank. To this celebrated anatomist he was an exceedingly valuable assistant, zealously devoting himself to anatomical pursuits; and he aided Mr. C. for many years in making dissections for him, and also for John Hunter. Several of the reports of these are still in the possession of his son, Dr. Wilson, Physician to St. George's Hospital: many of them are of great interest, and some few have been deemed of sufficient value to be read at the evening meetings of the Royal College of Physicians: one relates the appearances observed in the celebrated Dr. Samuel Johnson; another, made with Dr. Baillie, is on a case of transposition of the viscera; a third gives an account of an unusual distribution of the abdominal veins, by which the trunk of the vena portæ is ordinarily constituted; and a fourth details the occurrence of pus in the veins of the uterus in the bodies of several females who died of puerperal fever—these were made in conjunction with Dr. John Clarke, whose fellow-pupil he was, and whose sister he married.

Mr. Wilson was a resident with Mr. Cruikshank during ten years, as his pupil, assistant, and nominal partner, and many of the preparations belonging to the museum of Mr. C., purchased, after his decease, by the Russian government, were made by Mr. W., not less than two thousand, being mostly injections. The connexion of Mr. C. with Dr. Baillie was sufficient to bring under the notice of this excellent physician the talents and assiduity of Mr. Wilson, and he felt warmly interested in his welfare—this was occasioned solely by Mr. W.'s ability, industry, and good character; and it is evident, from a letter I have seen, that Dr. Baillie placed implicit confidence in Mr. Wilson, and that, during an illness in 1788, he entrusted to him the care of his business. During the whole of his life, Dr. B. may be said to have endeavoured in every way to promote Mr. W.'s advantage, and no one was capable of feeling this kindness more than the individual on whom it was bestowed.

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Mr. Wilson was successively a pupil of Dr. William Hunter, Mr. John Hunter, Dr. Baillie, and Mr. Cruikshank, for the acquisition of anatomical and surgical knowledge, and of Dr. Fordyce and Dr. Osborn, for other branches of professional information. Mr. W. was engaged as Demonstrator of Anatomy for Dr. Baillie in 1785. In October, 1791, he entered into an engagement with Mr. Cruikshank to teach anatomy in the dissecting-room, for which duty he was to receive the sum of sixty guineas for the two courses of the session; and he became still further associated with Mr. C., as joint anatomical lecturer, when Dr. Baillie quitted the school. Mr. C. had scarcely made this arrangement with Mr. Wilson, when he was taken so seriously ill, as to be incapacitated from performing the portion of duty that devolved upon him, and which in particular embraced the surgical part of the course, necessarily requiring much practical knowledge to be serviceable to the pupils, and it became a very arduous matter to Mr. W., to whom Dr. Baillie wrote on the occasion in the following manner :

“ Dear Wilson,

“ I wish you to offer my respects to the pupils, and to state to them, on my part, ‘ that I have been educated as a physician, that I have paid no particular attention to surgery, and that I am not qualified to give lectures upon this subject; otherwise, *great and distressing* as the effort would have been to have again come forward after having taken my leave, I should still have made that effort upon this occasion.’

“ After offering your own services, I think you should mention that you hope Mr. Cruikshank will be able to appear among them in a short time, and to give a considerable part of the lectures of this course—you should request also that no anonymous letters be sent him implying censure, that his mind was never capable of bearing this treatment, and that now it was less able to bear it than ever.

“ Yours, &c.

“ M. BAILLIE.”

That Mr. Wilson ably contended against the difficulties, is evident from an address forwarded at the conclusion of the course to him, expressive of the satisfaction of the pupils, concluding thus :

“ And could we be farther indulged by being permitted to express our solicitude for the welfare of the school and yourself, the undersigned would feel no hesitation in saying, that a continuance of the ability, industry, firmness, and friendly attentions to your pupils, which you have already so strikingly manifested, will insure, as far as such consequences may be connected with your own efforts, the reputation, success, and prosperity of both.”

This address is signed by several who have since honourably distinguished themselves in their profession. The lectures alluded to were the first given by Mr. Wilson, and he completed the series then in the course of delivery. He now gave distinct courses on surgery at his private residence in Great Queen Street, Lincoln’s Inn Fields, and subsequently in Argyle Street, a license for which is in the possession of his son. It is

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curious, and bears date Nov. 19, 1799, and is signed by Sir W. Addington, Knt., and Edward Read, Esq., two of his majesty's justices, holding a special sessions at the public office, Bow-Street, under the provisions of an act of the 31st of George III. c. 79, for the effectual suppression of societies established for seditious and treasonable purposes, and this license sets forth that, "it appearing to us that the said lectures are attended by respectable gentlemen, and established for scientific purposes, and also that the said lectures have nothing either in their constitution or operation inimical to the government of these realms, We the said justices, therefore, do agree to license the same."

These lectures, for a period of ten years from 1793, were attended by a numerous class, consisting of many of the medical officers of the navy and army. Sir James McGrigor, the present most respected head of the medical department of the army, was one of the pupils. Mr. W. has often observed, that they were to him the most profitable lectures he ever gave; but, from the labours of the anatomical school, he was under the necessity of relinquishing them. They were, however, afterwards re-established, at the request of the pupils, in the museum at Great Windmill Street, and Mr. Brodie was associated with him as a lecturer on surgery. This gentleman, whose success in his profession has neither been greater than his merits deserve, or the anticipations entertained by his friends, with a modesty which generally accompanies distinguished talents, felt diffident in appearing as a lecturer alone on the practical part of his profession. Mr. W. therefore undertook to join him in this undertaking, and gave up to him all the fees received for such lectures. After a time, Mr. W. resigned the entire course to Mr. B., the success of whose labours in this respect has already been duly noticed, and their continuation is to be traced to the course now in delivery by Mr. Babington and Mr. Cæsar Hawkins. It must be recollected that Mr. Brodie had been demonstrator to Mr. Wilson for some time previously, and it is due to Mr. Wilson to state, that his arrangement with Mr. Brodie was upon the most liberal terms, and in full estimation of his great industry and abilities. It is probable also that Mr. W. felt that in promoting Mr. Brodie's career he was also discharging a debt of gratitude due to Dr. Baillie for the protection he had received from him in a similar appointment, and in the same school; and there is an anecdote told of Dr. B. on this subject, which does great credit to his heart, and marks the uprightness of his conduct and character. Dr. B., it is said, called on Mr. W. upon hearing of the arrangement he had made with his relative, and, being well acquainted with the limited nature of his resources, begged of him not to sacrifice his own interests, or those of his family, to his honourable feelings of gratitude towards him or his relations. Mr. Wilson formed a right estimate of Mr. Brodie's talents and industry, and the connexion continued until the professional avocations of Mr. B. at St. George's Hospital and in private practice rendered it impossible for him to allot

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that portion of time to teaching anatomy which was absolutely necessary.

When Mr. Wilson commenced lecturing, he had the advantage of Dr. William Hunter's collection, which remained in the museum and house, under the care of Mr. W., with the sanction of the trustees, until it was removed to Glasgow. At considerable labour, and great expense, he incessantly toiled to complete a collection adequate to the purpose of teaching, and this he successfully accomplished. He made also a catalogue of the preparations, the autograph of which was presented by Dr. Wilson to the College of Surgeons in Edinburgh, who purchased the museum, and was considered by the author as a great anatomical work. In this labour, his son tells me, he would frequently sit up till three or four in the morning, with his affectionate wife by his side, over the delicate preparations of the eye and ear, at that time unequalled, in one of the attics of the large house in Windmill-Street, and this after an exhausting day of business, demonstrations, and lectures of two hours' duration. By this practice he, to use his own words, "lost the habit of sleep." The museum was frequented by the most distinguished men of the day; and many who had curiosity upon subjects of anatomy, there had their inquiries answered, and their difficulties solved.

As a lecturer, Mr. Wilson was distinguished by the clearness of his arrangement and the neatness of his description. I was not a pupil of Mr. W., but I recollect once to have heard him lecture upon the lower jaw, and I felt that it was one of the most comprehensive anatomical lectures I had ever heard. The enthusiasm he displayed, and the earnestness with which he developed the different parts, effectually secured the interest of his auditors. The manuscripts relating to his lectures, now in the possession of Mr. Lane, show how zealous he was in the duties of teaching, and that he highly prized a proper arrangement, a "lucidus ordo." He commenced as a demonstrator in 1785, and continued to lecture until the time of his death in 1821. It was his intention to have retired at the end of the session of 1821-22. He was always punctual in his attendance, and frequently lectured beyond the appointed time. After the lecture, he would enter familiarly into conversation with the pupils, and resolve any difficulties they might experience on the subject of the lecture. His last lecture was on muscular motion, delivered the day before his decease, the diagrams to illustrate which are introduced into his portrait by Drummond, in the library of the Royal College of Surgeons. This is, however, an indifferent likeness of him, and I have therefore, with the approbation of his family, selected a most esteemed resemblance, painted by Mr. Pope, known not only as a portrait painter, but also as an actor of some merit.

In demonstration, Mr. Wilson's favourite subject was the side-view of the pelvis. The dissection for this was always made by himself, and it was a constant object of study by the pupils. He has often been occupied during two whole mornings in making this preparation for lecture, giving

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up all other business to accomplish it. He is entitled to the merit of having discovered a pair of muscles, which had hitherto not been described; and he communicated an account of them to the Medico-Chirurgical Society. The paper is printed in the first volume of the Transactions, and accompanied by an excellent plate in illustration. It is entitled, *A Description of Two Muscles surrounding the Membranous Part of the Urethra*. These had been partially demonstrated by his predecessor Dr. Baillie, but he only viewed them as consisting of some circular fleshy fibres surrounding the membranous part of the urethra, and had not traced them to their termination by a tendinous insertion into the pubes. Anatomy is literally the geography of medicine and surgery, and without a precise knowledge of all its parts, we should be unable to account for any of the functions, or offer explanation of any impediment that may present itself, in operations upon the human body. The muscles described by Mr. Wilson, when under spasmodic action, may be looked upon as one of the causes of difficulty frequently experienced in the introduction of the catheter; and they, therefore, merit particular notice. They may be described as two distinct fleshy bellies, belonging to muscles of a triangular form, which unite in one common tendon, each, however, having a separate tendinous attachment to the inside of the symphysis pubis, and so placed as to surround the membranous part of the urethra. Their action is to draw this part upwards, and to press it against the cartilaginous arch of the pubes: they also contract upon the membranous part of the urethra, and may thus even close up that portion of the canal. Mr. Wilson made careful search in the writings of Winslow, and other anatomists, but failed to discover any description of these muscles. This has, probably, arisen from their being confounded with the levatores ani. Mr. W. particularly points out the mode in which the dissection is to be made for their demonstration.

When Mr. Wilson resolved to retire, in part, from the labour of teaching anatomy, he had great reason to suppose that the premises in Great Windmill Street—of which, in 1807, he had purchased the freehold from Dr. Baillie, for the sum of £4,000—would be bought by the College of Physicians, at that time anxious to remove from Warwick Lane. This proposal was over-ruled in the College after some discussion; and Mr. W. subsequently sold the premises to a printer, reserving a lease of the museum and back premises for the anatomical school, henceforward to be conducted by himself and Sir Charles Bell, who appointed his nephew, the late Mr. Shaw, to the superintendence of the dissecting-room. In the arrangement made on this occasion, a right was reserved to Mr. Wilson, of introducing his son to a certain number of lectures, during the last three years of his partnership with Sir C. Bell. As Dr. Wilson went abroad with Earl Spencer, this right of lecturing was never claimed by him.

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Judging from Mr. Wilson's robust appearance, no one would have conceived him to be at all delicate, or a likely subject for any diseased affection of the lungs; yet, at the early age of eighteen, he had, during his close attendance in the dissecting-room, been attacked with a large discharge of blood, followed by matter from an abscess in these organs, and he was literally sent out to Camden Town to die. An abscess of the arm, however, supervened, the discharge from the lungs abated, and he was sufficiently restored to return to his profession; but, at times, during the whole of his life, he occasionally brought up small quantities of blood. He had often suffered from feelings of asthma, and had expressed an opinion of being affected by some disease of the heart. He repeatedly complained of most strange and distressing sensations about this organ, as if it threatened to stop altogether. He was very much influenced by states of atmosphere, exhilarated by the air of the sea and open country to a remarkable degree, and sadly distressed by the London fogs. He was very sensitive of odours, yet not distressed by that of the dead body! He was often, as he used to express it laughingly, "made drunk" by the vapour of the spirits over which, for hours together, he used to work in forming his museum. This always happened in the demonstration of the nerves on a small subject, kept for the purpose in a vessel with spirits.

On the 21st of November, 1821, Mr. Wilson was found by his son, and Mr. Samuel Lane, his house-pupil, nearly insensible over a half-finished letter in his own room, between ten and eleven in the morning. He spoke a few words articulately, and placed his hand on his breast. His son immediately bled him to the amount of about ten ounces, and without difficulty. Dr. Baillie came in haste from Cavendish Square, but found him insensible. His pulse became very slow, and he never rallied, dying in about half-an-hour from the time his son found him. Mr. Abernethy examined the body on the 23rd, and the following is a statement of the appearances as drawn up by that distinguished anatomist.

"The whole surface of the left lung adhered to the sides of the chest. Both lungs were loaded with blood and fluids, the left lung more especially, yet, in neither was there any disease or induration. Both sides of the heart were empty, as also the thoracic aorta, and there was no disease within, except a slight thickening of the semilunar valves of that vessel. It therefore appears, that at the time of death, the blood did not return to the heart, either from the lungs or general system. The vessels of the dura and pia mater were tinged with blood. Serous effusion had taken place to a considerable extent, between the tunica arachnoidea and pia mater; the interior vessels of the brain did not appear distended, and there was not more fluid than usual in the ventricles. The coats of the right carotid artery were thickened, where it emerges from the cavernous sinus, and this vessel was dilated in its course through that cavity."

Mr. Wilson was buried in the chapel in Bayswater Road, belonging to the parish of St. George Hanover Square, followed by his relatives and former colleagues, Dr. Baillie, Mr. Thomas, and Sir Charles Bell.

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When the sudden event to which I have alluded, occurred, Mr. Wilson had just began to arrange his thoughts, and to compose his feelings for his farewell lecture in 1822; and his old pupils set themselves to think of some memorial of regard, to be presented to their faithful teacher and friend. I have already given Mr. W.'s character as a lecturer. As a man of highly honourable and generous feeling, he is well remembered by many now living. His manners were frank and cordial, with the polish of good breeding. He was a great favourite with young persons, accommodating himself to their tempers and dispositions, and encouraging them by his advice and instruction. He took great pleasure in all manly pursuits, and entered with great zeal as a volunteer in the Bloomsbury Inns of Court Association, when the country was threatened to be invaded by Napoleon. He was a man of undaunted courage, but gentle and affectionate as a child; most kind and liberal in the exercise of his profession, and in all his dealings—indeed, in matters of business, much too careless of his own immediate interests. His patients and friends were very much attached to him. He was exceedingly humane, and shrunk from inflicting pain on any living thing; yet he was firm and decided on all proper occasions. His taste in literature was manly and refined, although, in early life, his general education had not been much attended to. His enunciation was admirable; and his opinion on theatrical elocution and acting, was highly valued by many of the leading authors and actors of the day, to whom, from his old friendship with Mr. Harris of Covent Garden Theatre, he was well known. Among these, were the late Mr. Morton, one of his earliest and most attached friends, Mr. Reynolds, the Kemble family, the late Mr. Lewis, Mr. Richard Jones, Mr. Fawcett, Mrs. Davenport, Miss O'Neil, &c. By many members of the theatrical profession he is remembered with unaffected gratitude, for the important services he so liberally rendered to them in their real hour of need—sickness and sorrow.

It remains to notice the works of Mr. Wilson. His paper on the muscles belonging to the urethra, has already been mentioned. His earliest printed case was, I think, in 1798, when he communicated to the Royal Society, (of which he was elected a Fellow in 1803,) through Dr. Baillie, *A Description of a very unusual Formation of the Human Heart*. All deviations in the structure of this most important organ of the circulation of the blood, deserve to be recorded; observation of them serves frequently to demonstrate the ordinary and healthy mode of action, and leads to suggestions for the relief of disordered conditions, which otherwise, probably, would have escaped the attention of the physiologist and physician. The monstrosity described by Mr. Wilson in this paper, is of great rarity; in it, nature seems to have substituted the circulation which takes place in amphibious animals, for that of the human species, and the subject of it lived for seven days, being born at its proper period. The integuments of the upper and fore part of the abdomen were wanting; their

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place being supplied by a membranous covering, through which a pulsating tumour could be felt; and from the nature of its action, no doubt was entertained of its being the heart. Upon dissection, this proved to be the case; it was that organ imbedded in a cavity formed on the superior surface of the liver. The heart itself consisted only of a single auricle and ventricle, each of them large in their size. A large trunk arose from the latter, ascended into the chest, divided into two large branches, one of which formed the aorta, and the other the pulmonary artery. The bronchial arteries and veins were wanting. Mr. Wilson has described the distribution of the branches of the blood-vessels in this case, in which it is evident that the blood in circulation, must always have been of a mixed character, partaking partly of an arterial, and partly of a venous nature. An excellent plate representing the parts, accompanies the paper.

Mr. Wilson was appointed Professor of Anatomy and Surgery to the Royal College of Surgeons; and, in 1819, he published *Lectures on the Blood, and on the Anatomy, Physiology, and Surgical Pathology of the Vascular System of the Human Body*. These had been delivered in the summer of this year, and they are inscribed to Dr. Baillie, who was highly gratified by this public mark of respect and gratitude. Six of these lectures were given upon the foundation of Edward Arris and John Gale, on human anatomy; and nine, which are called the museum lectures, on surgery.

In the ensuing year he published a second series, delivered before the College in the summer of 1820, being *Lectures on the Structure and Physiology of the parts composing the Skeleton, and on the Diseases of the Bones and Joints of the Human Body, preceded by some Observations on the Influence of the Brain and Nerves*. These he inscribed to Sir William Blizard. And, in 1821, he published a third course of *Lectures on the Structure and Physiology of the Male Urinary and Genital Organs of the Human Body, and on the Nature and Treatment of their Diseases*, which he dedicated to Mr. Cline. These volumes contain a very comprehensive and judicious statement of the best received opinions on the subjects to which they relate, and offer a body of information for the guide and instruction of the medical student and practitioner. Mr. Wilson had begun to arrange materials for a fourth series of lectures at the college, on the Brain and Nervous System. He published in the third volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, a curious *Instance of the Obliteration of the Vena Cava Inferior from Inflammation*; also, *A Case of Paralysis, from Enlargement of Bone, cured by the use of Mercury*; and *A Case of Erysipelas*. I also understand, he published a pamphlet on the mode of treating diseases of the spine; for a copy of which I have vainly sought, either in private or public medical libraries.

